# DCR-TRV103/TRV110/TRV110E/TRV110P/TRV203/TRV210/ TRV210E/TRV310/TRV310E/TRV310P/TRV315 DCR-TR7000/TR7000E/TR7100E

**SERVICE MANUAL** 

Ver 1.3 2001, 01



Digital Handycam

# Digital 8

(1) InfoLITHIUM



B800 MECHANISM



Photo: DCR-TRV310E

US Model

DCR-TRV103/TRV110/TRV210/TRV310/TRV315/TR7000

Canadian Model

DCR-TRV103/TRV110/TRV203/TRV210/TRV315/TR7000

E Model
DCR-TRV110/TRV110E/TRV110P/
TRV310/TRV310E/TRV310P
Hong Kong Model
DCR-TRV110/TRV110E/TRV310/TRV310E

AEP Model DCR-TRV110E/TRV210E/TRV310E/ TR7000E/TR7100E

UK Model
UK Model
DCR-TRV110E/TRV210E/TRV310E/TR7000E
Tourist Model
DCR-TRV110E/TRV310/TRV310E
Australian Model
DCR-TRV110E/TRV310E
Brazilian Model
DCR-TRV110

Chinese Model

DCR-TRV110E/TRV210E/TRV310E

East European Model

North European Model

Russian Model

DCR-TRV110E

Taiwan Model

NTSC MODEL: DCR-TRV103/TRV110/TRV110P/TRV203/TRV210/

TRV310/TRV310P/TRV315/TR7000

PAL MODEL : DCR-TRV110E/TRV210E/TRV310E/TR7000E/TR7100E

For MECHANISM ADJUSTMENT, refer to the "8mm Video MECHANICAL ADJUSTMENT MANUAL VII" (9-973-801-11).

### **SPECIFICATIONS**

# Video camera recorder

### System

Video recording system 2 rotary heads Helical scanning system Audio recording system Rotary heads, PCM system Quantization: 12 bits (Fs 32 kHz, stereo 1, stereo 2), 16 bits (Fs 48 kHz, stereo) Video signal DCR-TRV103/TRV110/TRV110P/ TRV203/TRV210/TRV310/ TRV310P/TRV315/TR7000: NTSC color, EIA standards TRV110E/TRV210E/TRV310E/ TR7000E/TR7100E: PAL color, CCIR standards Recommended cassette Hi8 video cassette Recording/playback time DCR-TRV103/TRV110/TRV110P/ TRV203/TRV210/TRV310/TRV310P/ TRV315/TR7000: (using 120 min. cassette) 1 hours DCR-TRV110E/TRV210E/TRV310E/ TR7000E/TR7100E: (using 90 min.

cassette)
I hours
Fastforward/rewind time DCRTRV103/TRV110/TRV110P/TRV203/
TRV210/TRV310/TRV310P/TRV315/
TR7000: (using 120 min. cassette)
DCR-TRV110E/TRV210E/TRV310E/
TR7000E/TR7100E: (using 90 min. cassette)
Approx. 8 min.

Image device 1/4 inch CCD (Charge Coupled Device)

DCR-TRV103/TRV110/TRV110P/TRV203/TRV210/TRV310/TRV310P/TRV315/TR7000:
Approx. 460,000 pixels
(Effective: Approx. 290,000 pixels)
DCR-TRV110E/TRV210E/
TRV310E/TR7000E/TR7100E:

Approx. 800,000 pixels (Effective: Approx. 400,000 pixels) Viewfinder

Electronic viewfinder DCR-TRV315/TR7000/TR7000E/ TR7100E:

Monochrome DCR-TRV103/TRV110/TRV110E/ TRV110P/TRV203/TRV210/ TRV210E/TRV310/TRV310E/ TRV310P:

Color Lens

> Combined power zoom lens Filter diameter 1 7/16 in. (37 mm) 20× (Optical),

> DCR-TRV103/TRV110/TRV110E: EE, NE, RU/TRV110P/TRV203/ TRV210/TRV210E: CN/TRV310/ TRV310E/TRV310P: E, HK, AUS, CN, JE/TRV315/TR7000:

360× (Digital) DCR-TRV110E: AEP, UK/TRV210E: AEP, UK/TRV310E: AEP, UK/ TR7000E/TR7100E:

80× (Digital)

### Focal length

5/32 - 2 7/8 in. (3.6 - 72 mm) When converted to a 35 mm still camera

1 5/8 - 32 3/8 in. (41 - 820 mm) Color temperature

Auto

Minimum illumination DCR-TRV103/TRV110/TRV110P/ TRV203/TRV210/TRV310/ TRV310P/TRV315/TR7000: 1.0 lux (F 1.4) DCR-TRV110E/TRV210E/

TRV310E/TR7000E/TR7100E: 3 lux (F 1.4)

0 lux (in the NightShot mode)\*
\* Objects unable to be seen due to
the dark can be shot with
infrared lighting

# Input and output connectors

DCR-TRV103/TRV110/TRV110E: E, HK, AUS, CN, JE/TRV110P/TRV203/TRV210/TRV210E: CN/TRV310/TRV310E: E, HK, AUS, CN, JE/TRV310P/TRV315/TR7000: S video input/output DCR-TRV110E: AEP, UK, EE, NE, RU/TRV210E: AEP, UK/TRV310E: AEP, UK/TRV310E: S video output 4-pin mini DIN Luminance signal: 1 Vp-p, 75 ohms, unbalanced

DCR-TRV103/TRV110/TRV110P/ TRV203/TRV210/TRV310/ TRV310P/TRV315/TR7000: Chrominance signal: 0.286 Vp-p, DCR-TRV110E/TRV210E/ TRV310E/TR7000E/TR7100E: Chrominance signal: 0.3 Vp-p 75 ohms, unbalanced DCR-TRV103/TRV110/TRV110E: E, HK, AUS, CN, JE/TRV110P/TRV203/ TRV210/TRV210E: CN/TRV310/ TRV310E: E, HK, AUS, CN, JE/ TRV310P/TRV315/TR7000: Video input/output DCR-TRV110E: AEP, UK, EE, NE, RU/TRV210E: AEP, UK/TRV310E: AEP, UK/TR7000E/TR7100E: Video output Phono jack, 1 Vp-p, 75 ohms, unbalanced DCR-TRV103/TRV110/TRV110E: E, HK, AUS, CN, JE/TRV110P/TRV203/ TRV210/TRV210E: CN/TRV310/ TRV310E: E, HK, AUS, CN, JE/ TRV310P/TRV315/TR7000: Audio input/output DCR-TRV110E: AEP, UK, EE, NE, RU/TRV210E: AEP, UK/TRV310E: AEP, UK/TR7000E/TR7100E: Audio output

Phono jacks (2: stereo L and R) 327 mV, (at output impedance 47 kilohms) impedance less than 2.2 kilohms

RFU DC OUT Special minijack, DC 5V

# Digital 8 DIGITAL VIDEO CAMERA RECORDER





DCR-TRV103/TRV110/TRV110E: E, HK, AUS, CN, JE/TRV110P/TRV203/ TRV210/TRV210E: CN/TRV310/ TRV310E: E, HK, AUS, CN, JE/ TRV310P/TRV315/TR7000: DV input/output DCR-TRV110E: AEP, UK, EE, NE, RU/TRV210E: AEP, UK/TRV310E: AEP, UK/TR7000E/TR7100E: 4-pin connector Headphone jack Stereo minijack (ø 3.5 mm) LANC control jack Stereo mini-minijack (ø 2.5 mm) MIC jack Minijack, 0.388 mV low impedance with 2.5 to 3.0 V DC, output impedance 6.8 kilohms (ø 3.5 mm) Stereo type

### LCD screen

**Picture** DCR-TRV103/TRV110/TRV110E/ TRV110P: 2.5 inches measured diagonally  $2 \times 1 \ 1/2 \text{ in. } (50.3 \times 37.4 \text{ mm})$ DCR-TRV203/TRV210/TRV210E/ TRV315: 3 inches measured diagonally  $2\ 3/8 \times 1\ 3/4 \text{ in. } (59.5 \times 43.2 \text{ mm})$ DCR-TRV310/TRV310E/TRV310P: 3.5 inches measured diagonally  $2.7/8 \times 2$  in.  $(72.4 \times 50.4 \text{ mm})$ Total dot number DCR-TRV103/TRV110/TRV110E/ TRV110P: 61,380 (279 × 220) DCR-TRV203/TRV210/TRV210E/ TRV315:  $89,622 (383 \times 234)$ DCR-TRV310/TRV310E/TRV310P:

### General

105,380 (479 × 220)

Power requirements
7.2 V (battery pack)
8.4 V (AC power adaptor)
Average power consumption
(when using the battery pack)
During camera recording using
LCD
DCR-TRV103/TRV110/TRV110P:
3.5 W
DCR-TRV110E: 3.6 W
DCR-TRV203/TRV210/TRV210E/
TRV315: 3.9 W
DCR-TRV310/TRV310E/TRV310P:
4.2 W

TRV210E/TRV310/TRV310E/ TRV310P: 3.2 W DCR-TRV103/TRV110/TRV110P/ TRV315: 3.1 W During camera recording DCR-TR7000/TR7000E/TR7100E: 3.1 W Operating temperature 32 °F to 104 °F (0 °C to 40 °C) Storage temperature -4 °F to +140 °F (-20 °C to +60 °C) Dimensions (Approx.) DCR-TRV103/TRV110/TRV110E/ TRV110P:  $4 \times 4 \ 1/4 \times 8 \ 5/8$  in.  $(101 \times 107 \times 217 \text{ mm}) \text{ (w/h/d)}$ DCR-TRV203/TRV210/TRV210E/ TRV310/TRV310E:  $43/8 \times 41/4 \times 85/8$  in.  $(108 \times 107 \times 217 \text{ mm}) \text{ (w/h/d)}$ DCR-TRV315:  $43/8 \times 41/4 \times 73/4$  in.  $(108 \times 106 \times 195 \text{ mm}) \text{ (w/h/d)}$ DCR-TR7000/TR7000E/TR7100E:  $4 \times 4 \, 1/4 \times 7 \, 3/4 \, \text{in}.$  $(101 \times 106 \times 195 \text{ mm}) \text{ (w/h/d)}$ Mass (approx.) DCR-TRV103/TRV110/TRV110E/ TRV110P 1 lb 15 oz (890 g) DCR-TRV203/TRV210/TRV210E/ TRV315: 2 lb (930 g) DCR-TRV310/TRV310E: 2 lb 1 oz (960 g) DCR-TR7000/TR7000E/TR7100E: 1 lb 11 oz (790 g) excluding the battery pack, lithium battery, cassette and shoulder DCR-TRV203/TRV210/TRV210E/ TRV310/TRV310E/TRV310P/ TRV315: 2 lb 6 oz (1.1 kg) DCR-TRV103/TRV110/TRV110E/ TRV110P: 2 lb 3 oz (1 kg) DCR-TR7000/TR7000E/TR7100E: 1 lb 11 oz (790 g) including the battery pack NP-F330, lithium battery CR2025, 120 min. cassette (DCR-TRV103/TRV110/TRV110P/ TRV203/TRV210/TRV310/ TRV310P/TRV315/TR7000), 90 min. cassette (DCR-TRV110E/TRV210E/ TRV310E/TR7000E/TR7100E) and shoulder strap Supplied accessories

See page 3.

Viewfinder

DCR-TRV110E/TRV203/TRV210/

### AC power adaptor

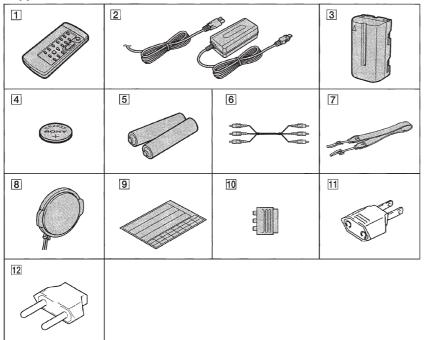
Power requirements 100 - 240 V AC, 50/60 Hz Power consumption 23 W Output voltage DC OUT: 8.4 V, 1.5 A in operating Operating temperature 32 °F to 104 °F (0 °C to 40 °C) Storage temperature -4 °F to +140 °F (-20 °C to +60 °C) Dimensions (approx.)  $5 \times 19/16 \times 21/2$  in.  $(125 \times 39 \times 62 \text{ mm}) \text{ (w/h/d)}$ excluding projecting parts Mass (approx.) 9.8 oz (280 g) excluding power cord Cord length (approx.) AC power cord: 6.6 feet (2 m) Connecting cord: 5.2 feet (1.6 m)

Design and specifications are subject to change without notice.

### • Abbreviation

EE : East European model
NE : North European model
RU : Russian model
HK : Hong Kong model
AUS : Australian model
CN : Chinese model
JE : Tourist model

### Supplied accessories



- 1 Wireless Remote Commander (1)
- 2 AC-L10A/L10B/L10C AC power adaptor (1), Power cord (1)
- 3 NP-F330 Battery pack (1)
- 4 CR2025 Lithium Battery (1)
  The lithium battery is already installed in your camcorder.
- 5 Size AA (R6) battery for Remote Commander (2)
- 6 A/V connecting cable (1)

- 7 Shoulder strap (1)
- 8 Lens cap (1)
- 9 Label sheet for cassette (1) Stick this label on the recorded cassette.
- 10 21-pin adaptor (1) DCR-TR7000E/TR7100E/TRV210E: AEP, UK/ TRV310E: AEP, UK/TRV110E: AEP, UK, EE, NE, RU only
- 11 2-pin conversion adaptor (1) DCR-TRV110E: E, HK/TRV110: E, HK, BR/ TRV110P/TRV310E: E, HK/TRV310: E, HK/ TRV310P only
- 12 2-pin conversion adaptor (1) DCR-TRV110E: JE/TRV310E: JE/ TRV310: JE only
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### **SAFETY-RELATED COMPONENT WARNING!!**

COMPONENTS IDENTIFIED BY MARK  $\triangle$  OR DOTTED LINE WITH MARK  $\triangle$  ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

### ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE \( \triangle \) SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

# **SAFETY CHECK-OUT**

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

- Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
- 2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
- 3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
- Look for parts which, through functioning, show obvious signs
  of deterioration. Point them out to the customer and
  recommend their replacement.
- 5. Check the B+ voltage to see it is at the values specified.
- 6. Flexible Circuit Board Repairing
  - Keep the temperature of the soldering iron around 270°C during repairing.
  - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
  - Be careful not to apply force on the conductor when soldering or unsoldering.

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Model	DCR- TRV110/ TRV110P/ TRV103	DCR- TRV110E		DCR- TRV 203	DCR- TRV210	DCR- TRV210E		DCR- TRV310/ TRV310P	DCR- TRV310E		DCR- TRV315	DCR- TR7000	DCR- TR7000E/ TR7100E	Remark
Destination	US, CND, E, HK, BR	AEP, UK, EE, NE, RU	E, HK, AUS, CN, JE	CND	US, CND	AEP, UK	CN	US, E, HK, JE, TW	AEP, UK	E, HK, AUS, CN, JE	US, CND	US, CND	AEP, UK	
Color system	NTSC	PAL	PAL	NTSC	NTSC	PAL	PAL	NTSC	PAL	PAL	NTSC	NTSC	PAL	NTSC: X251 is 28.6363MHz PAL: X251 is 28.375MHz
Remote Commander	RMT-814	RMT-814	RMT-814	RMT-814	RMT-814	RMT-814	RMT-814	RMT-814	RMT-814	RMT-814	RMT-814	RMT-814	RMT-814	
Lens	20×	20×	20×	20×	20×	20×	20×	20×	20×	20×	20×	20×	20×	
Digital zoom	360×	80× (Note)	360×	360×	360×	×0×	360×	360×	×0×	360×	360×	360×	×08	
CCD imager	720H	H096	H096	720H	720H	H096	H096	720H	H096	H096	720H	720H	H096	960H:with IC503 of VC-213 board
MONITOR IN	0	0	0	0	0	0	0	0	0	0	0	×	×	O:with Q641-644 of VC-213 board
VTR REC	0	×	0	0	0	×	0	0	×	0	0	0	×	O:with REC button and Q641- 644 of VC-213 board
LCD (size)	2.5	2.5	2.5	3.0	3.0	3.0	3.0	3.5	3.5	3.5	3.0	×	×	2.5 inch: with PD-105 board 3/3.5 inch: with PD-106 board
LCD (pixel)	61k	84k	61k	89k	89k	89k	89k	105k	105k	105k	89k	×	×	
LCD type	TYPE S	TYPE S	TYPE S	TYPE S	TYPE S	TYPE S	TYPE S	TYPEC	TYPE S	TYPE S	TYPE S	×	×	
View finder	B/W	B/W	B/W	B/W	B/W	B/W	B/W	B/W	B/W	B/W	Color	Color	Color	Color: with VF-126 board B/W: with VF-129 board
CD board	CD-212	CD-213	CD-213	CD-212	CD-212	CD-213	CD-213	CD-212	CD-213	CD-213	CD-212	CD-212	CD-213	
CF board	CF-62	CF-62	CF-62	CF-63	CF-63	CF-63	CF-63	CF-63	CF-63	CF-63	CF-63	CF-65	CF-65	
MA board	MA-354	MA-354	MA-354	MA-355	MA-355	MA-355	MA-355	MA-355	MA-355	MA-355	MA-355	MA-357	MA-357	
PD board	PD-105	PD-105	PD-105	PD-106	PD-106	PD-106	PD-106	PD-106	PD-106	PD-106	PD-106	×	×	
VF board	VF-129	VF-129	VF-129	VF-129	VF-129	VF-129	VF-129	VF-129	VF-129	VF-129	VF-126	VF-126	VF-126	
SE board	SE-86	SE-86	SE-86	SE-87	SE-87	SE-87	SE-87	SE-87	SE-87	SE-87	SE-87	SE-89	SE-89	
PJ board	PJ-95	PJ-95	PJ-95	PJ-96	PJ-96	PJ-96	PJ-96	PJ-96	PJ-96	PJ-96	PJ-96	PJ-98	PJ-98	
Note: EE, NE, RU model is 360x.	del is $360 \times$ .													

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6-1-1	O. Lens Block Assembly6-10
6-1-1	1. Cassette Compartment Assembly6-11
6-1-1	2. LS Chassis Assembly ······ 6-12
	3. Mechanism Chassis Assembly6-13
6-2.	Electrical Parts List 6-14
	he color reproduction frame is shown on page 323.

### **SERVICE NOTE**

### 1. POWER SUPPLY DURING REPAIRS

In this unit, about 10 seconds after power is supplied (8.4V) to the battery terminal using the service power cord (J-6082-223-A), the power is shut off so that the unit cannot operate.

This following two methods are available to prevent this. Take note of which to use during repairs.

### Method 1.

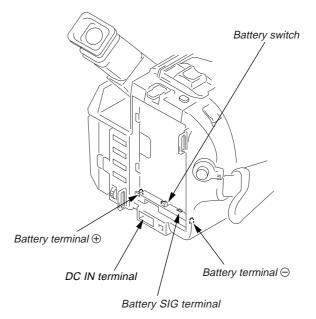
Connect the servicing remote commander RM-95 (J-6082-053-B) to the LANC jack, and set the remote commander switch to the "ADJ" side.

### Method 2.

Press the battery switch of the battery terminal using adhesive tape, etc.

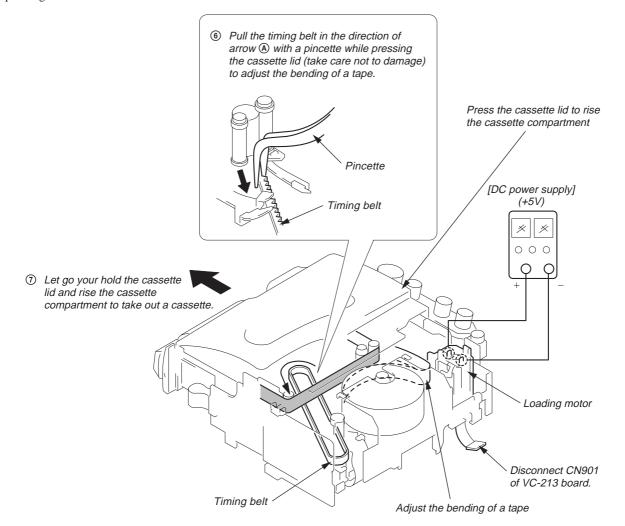
### Method 3.

Use the DC IN terminal. (Use the AC power adaptor.)



# 2. TO TAKE OUT A CASSETTE WHEN NOT EJECT (FORCE EJECT)

- ① Refer to 2-1. to remove the front panel assembly.
- 2 Refer to 2-1. to remove the cabinet (R) assembly.
- 3 Refer to 2-1. to remove the battery panel assembly.
- 4 Refer to 2-1. to remove the cabinet (L) assembly.
- (5) Disconnect CN901 of VC-213 board.
- 6 Add +5V from the DC POWER SUPPLY and unload with a pressing the cassette lid.



### **SELF-DIAGNOSIS FUNCTION**

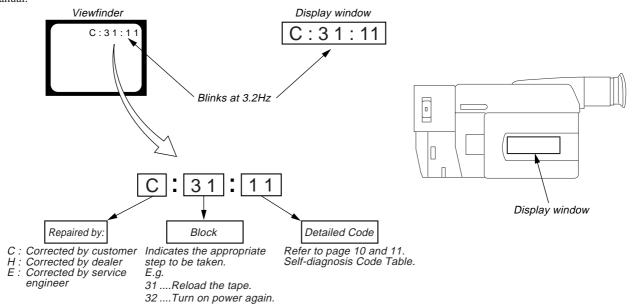
# 1. Self-diagnosis Function

When problems occur while the unit is operating, the self-diagnosis function starts working, and displays on the viewfinder or Display window what to do. This function consists of two display; self-diagnosis display and service mode display.

Details of the self-diagnosis functions are provided in the Instruction manual

# 2. Self-diagnosis Display

When problems occur while the unit is operating, the counter of the viewfinder or Display window shows a 4-digit display consisting of an alphabet and numbers, which blinks at 3.2 Hz. This 5-character display indicates the "repaired by:", "block" in which the problem occurred, and "detailed code" of the problem.

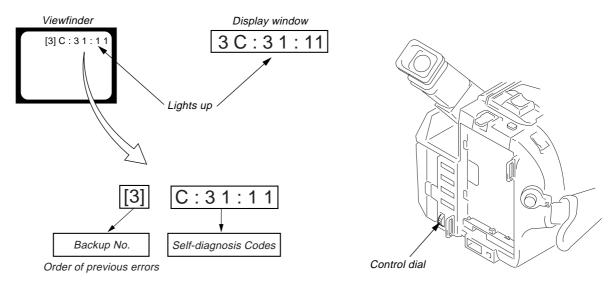


# 3. Service Mode Display

The service mode display shows up to six self-diagnosis codes shown in the past.

### 3-1. Display Method

While pressing the "STOP" key, set the switch from OFF to "VTR or PLAYER", and continue pressing the "STOP" key for 5 seconds continuously. The service mode will be displayed, and the counter will show the backup No. and the 5-character self-diagnosis codes.



### 3-2. Switching of Backup No.

By rotating the control dial, past self-diagnosis codes will be shown in order. The backup No. in the [] indicates the order in which the problem occurred. (If the number of problems which occurred is less than 6, only the number of problems which occurred will be shown.)

[1]: Occurred first time [4]: Occurred fourth time [2]: Occurred second time [5]: Occurred fifth time [6]: Occurred the last time

## 3-3. End of Display

Turning OFF the power supply will end the service mode display.

**Note:** The "self-diagnosis display" data will be backed up by the coin-type lithium battery (CF-62/63/65 board BH001). When this coin-type lithium battery is disconnected, the "self-diagnosis display" data will be lost by initialization.

# 4. Self-diagnosis Code Table

S	elf-di	agnos	is Co	de		
Repaired by:		ock ction	Deta Co		Symptom/State	Correction
C	2	1	0	0	Condensation.	Remove the cassette, and insert it again after one hour.
С	2	2	0	0	Video head is dirty.	Clean with the optional cleaning cassette.
С	2	3	0	0	Non-standard battery is used.	Use the InfoLITHIUM battery.
С	3	1	1	0	LOAD direction. Loading does not complete within specified time	Load the tape again, and perform operations from the beginning.
С	3	1	1	1	UNLOAD direction. Loading does not complete within specified time	Load the tape again, and perform operations from the beginning.
С	3	1	2	0	T reel side tape slacking when unloading.	Load the tape again, and perform operations from the beginning.
С	3	1	2	1	S reel side tape slacking when unloading.	Load the tape again, and perform operations from the beginning.
С	3	1	2	2	T reel fault.	Load the tape again, and perform operations from the beginning.
С	3	1	2	3	S reel fault.	Load the tape again, and perform operations from the beginning.
С	3	1	3	0	FG fault when starting capstan.	Load the tape again, and perform operations from the beginning.
С	3	1	3	1	FG fault during normal capstan operations.	Load the tape again, and perform operations from the beginning.
С	3	1	4	0	FG fault when starting drum.	Load the tape again, and perform operations from the beginning.
С	3	1	4	1	PG fault when starting drum.	Load the tape again, and perform operations from the beginning.
С	3	1	4	2	FG fault during normal drum operations.	Load the tape again, and perform operations from the beginning.
С	3	1	4	3	PG fault during normal drum operations.	Load the tape again, and perform operations from the beginning.
С	3	1	4	4	Phase fault during normal drum operations.	Load the tape again, and perform operations from the beginning.
С	3	2	1	0	LOAD direction loading motor time- out.	Remove the battery or power cable, connect, and perform operations from the beginning.
С	3	2	1	1	UNLOAD direction loading motor time-out.	Remove the battery or power cable, connect, and perform operations from the beginning.
С	3	2	2	0	T reel side tape slacking when unloading.	Remove the battery or power cable, connect, and perform operations from the beginning.
С	3	2	2	1	S reel side tape slacking when unloading.	Remove the battery or power cable, connect, and perform operations from the beginning.
С	3	2	2	2	T reel fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
С	3	2	2	3	S reel fault.	Remove the battery or power cable, connect, and perform operations from the beginning.
С	3	2	3	0	FG fault when starting capstan.	Remove the battery or power cable, connect, and perform operations from the beginning.
С	3	2	3	1	FG fault during normal capstan operations.	Remove the battery or power cable, connect, and perform operations from the beginning.
С	3	2	4	0	FG fault when starting drum.	Remove the battery or power cable, connect, and perform operations from the beginning.
С	3	2	4	1	PG fault when starting drum.	Remove the battery or power cable, connect, and perform operations from the beginning.
С	3	2	4	2	FG fault during normal drum operations.	Remove the battery or power cable, connect, and perform operations from the beginning.
С	3	2	4	3	PG fault during normal drum operations.	Remove the battery or power cable, connect, and perform operations from the beginning.
С	3	2	4	4	Phase fault during normal drum operations.	Remove the battery or power cable, connect, and perform operations from the beginning.

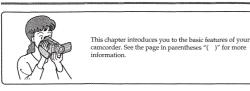
	elf-dia	gnos	is Co	de		
Repaired by:	Blo Func	- 1	Deta Co	iled de	Symptom/State	Correction
Е	6	1	0	0	Difficult to adjust focus (Cannot initialize focus.)	Inspect the lens block focus reset sensor (Pin ② of CN551 of VC-213 board) when focusing is performed when the control dial is rotated in the focus manual mode and the focus motor drive circuit (IC551 of VC-213 board) when the focusing is not performed.  Note: Use the remote commander RM-95 only for the model without the focus dial.
Е	6	1	1	0	Zoom operations fault (Cannot initialize zoom lens.)	Inspect the lens block zoom reset sensor (Pin ① of CN551 of VC-213 board) when zooming is performed when the zoom lens is operated and the zoom motor drive circuit (IC551 of VC-213 board) when zooming is not performed.
Е	6	2	0	0	Handshake correction function does not work well. (With pitch angular velocity sensor output stopped.)	Inspect pitch angular velocity sensor (SE651 of SE-86/87/89 board) peripheral circuits.
Е	6	2	0	1	Handshake correction function does not work well. (With yaw angular velocity sensor output stopped.)	Inspect yaw angular velocity sensor (SE652 of SE-86/87/89 board) peripheral circuits.

# DCR-TRV103/TRV110/TRV110E/TRV110P/TRV203/TRV210/ TRV210E/TRV310/TRV310E/TRV310P/TRV315 DCR-TR7000/TR7000E/TR7100E

**SECTION 1 GENERAL** 

This section is extracted from instruction manual. (3-865-973-11)

### **Quick Start Guide**



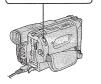
### Connecting the power cord (p. 12) Use the battery pack when using your camcorder outdoors (p. 8).

Open the DC IN jack cover Connect the plug with its ▲ mark facing up

## AC power adaptor (supplied) Inserting a cassette (p. 13)



2 Insert a cassette compartment with its window facing 3 Close the cassette compartment by pressing the "PUSH" mark on the cassette compartment. The cassette compartment automatically goes









### Using this manual

The instructions in this manual are for the four models listed in the table below. Before you start reading this manual and operating your camcorder, check the model number by looking at the bottom of your camcorder. The DCR-TRV315 is the model used for illustration purposes. Otherwise, the model ame is indicated in the illustrations. Any differences in operation are clearly indicated in the text, for example, "DCR-TRV315" and "TRV315" and "TR

ou read through this manual, buttons and settings on your camcorder are shown in As you read turning into manual, buttons and settings on your camcorder are a capital letters.

e.g. Set the POWER switch to CAMERA.
When you carry out an operation, you can hear a beep sound to indicate that the operation is being carried out.

Types of differences

Types of all	ci ciicco		
DCR-	TRV203/TRV210/TRV310	TRV315	
Viewfinder	B/W	color	

### Before using your camcorder

With your digital camcorder, you can use Hi8 video cassettes Hi8. Your camcorder records and plays back pictures in the Digital8 B system. Also, your camcorder plays back tapes recorded in the Hi8 Hi8/standard 8 B (analog) system. You, however, cannot use the functions in "Advanced Playback Operations" on page 42 to 48 for playback in the Hi8 Hi8/standard 8 B system. To enable smooth transition, we recommend that you do not mix pictures recorded in the Hi8 Hi8/standard 8 B with the Digital8 D system on a tape.

## Note on TV color systems

TV color systems differ from country to country. To view your recordings on a TV , you need an NTSC system-based TV .

### Copyright precautions

Television programs, films, video tapes, and other materials may be copyrighted. Unauthorized recording of such materials may be contrary to the provision of the copyright laws.

### Precautions on camcorder care

- utions on camcorder care

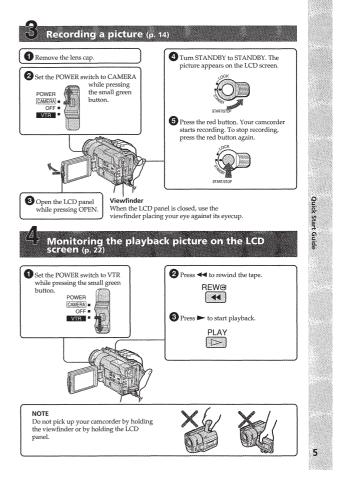
   The LCD screen and/or the color viewfinder are manufactured using highprecision technology. However, there may be some tiny black spots and/or
  bright spots (red, blue or green in color) that constantly appear on the LCD
  screen and/or in the viewfinder. These spots occur normally in the
  manufacturing process and do not affect the recorded picture in any way.
  Effective number of pixels is 99.99% or more.

   Do not let your camcorder get wet. Keep your camcorder away from rain and sea
  water. Letting your camcorder get wet may cause your camcorder to malfunction.
  Sometimes this malfunction cannot be repaired [a].

   Never leave your camcorder exposed to temperatures above 140°F (60°C), such as in a
  car parked in the sun or under direct sunlight [b].

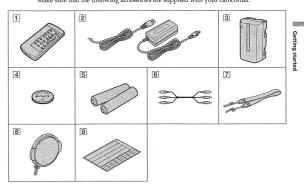
   Do not place your camcorder so as to point the viewfinder or the LCD screen toward
  the sun. The inside of the viewfinder or LCD screen may be damaged [c].





### Checking supplied accessories

Make sure that the following accessories are supplied with your camcorder.



- Wireless Remote Commander (1)
- 2 AC-L10A/L10B/L10C AC power adaptor (1), Power cord (1) (p. 9)
- 3 NP-F330 battery pack (1) (p. 8, 9)
- 4 CR2025 lithium battery (1) (p. 62) The lithium battery is already installed in your camcorder.
- 5 Size AA (R6) battery for Remote Commander (2) (p. 81)
- 6 A/V connecting cable (1) (p. 25)
- 7 Shoulder strap (1) (p. 78) 8 Lens cap (1) (p. 14)
- [9] Label sheet for cassette (1) Stick this label on the recorded cassette.

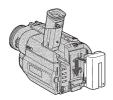
Contents of the recording cannot be compensated if recording or playback is not made due to a malfunction of the camcorder, video tape, etc.

### Step 1 Preparing the power supply

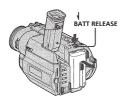
### Installing the battery pack

Install the battery pack to use your camcorder outdoors.

Slide the battery pack down.



To remove the battery pack Slide the battery pack out in the direction of the arrow while pressing 1 BATT RELEASE down.



After installing the battery pack
Do not carry your camcorder by holding the battery pack. If you do so, the battery pack
may slide off your camcorder unintentionally, damaging your camcorder.

### Step 1 Preparing the power supply

#### Charging the battery pack

Use the battery pack after charging it for your camcorder. Your camcorder operates only with the "InfoLITHIUM" battery pack (L series).

"InfoLITHIUM" is a trademark of Sony Corporation.

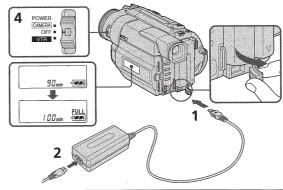
(1) Open the DC IN jack cover and connect the AC power adaptor supplied with your camcorder to the DC IN jack with the plug's A mark facing up.

(2) Connect the power cord to the AC power adaptor.

(3) Connect the power cord to a wall outlet.

(4) Set the POWER switch to OFF. Charging begins. The remaining battery time is indicated in minutes on the display window.

When the remaining battery indicator changes to mornal charge is completed. To fully charge the battery (full charge), leave the battery pack attached for about 1 hour after normal charge is completed until FULL appears in the display window. Fully charging the battery allows you to use the battery longer than usual.



#### Note

Prevent metallic objects from coming into contact with the metal parts of the DC plug of the AC power adaptor.

This may cause a short-circuit, damaging the AC power adaptor.

Remaining battery time indicator
The remaining battery time indicator in the display window roughly indicates the recording time with the viewfinder.

**Battery pack**The battery pack is charged a little before it leaves the factory.

Until your camcorder calculates the actual remaining battery time

- min" appears in the display window

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## Step 1 Preparing the power supply

### **Charging time**

8

Battery pack	Full charge (Normal charge)
NP-F330 (supplied)	150 (90)
NP-F530/F550	210 (150)
NP-F730/F730H/F750	300 (240)
NP-F930/F950	390 (330)

Approximate number of minutes to charge an empty battery pack

# Recording time DCR-TRV203/TRV210

Battery	Recordir the viev		Recording the LCD	
pack	Continuous*	Typical**	Continuous*	Typical**
NP-F330 (supplied)	100 (90)	55 (50)	70 (80)	45 (40)
NP-F530	165 (150)	90 (85)	130 (115)	75 (65)
NP-F550	200 (180)	110 (100)	165 (145)	95 (80)
NP-F730	335 (300)	190 (170)	280 (250)	160 (140)
NP-F730H/F750	410 (365)	235 (205)	335 (295)	190 (170)
NP-F930	535 (480)	305 (275)	435 (390)	250 (225)
NP-F950	630 (570)	360 (325)	510 (460)	295 (265)

### DCR-TRV310

Battery	Recording the view			Recording with the LCD screen	
pack	Continuous*	Typical**	Continuous*	Typical**	
NP-F330 (supplied)	100 (90)	55 (50)	75 (65)	40 (35)	
NP-F530	165 (150)	90 (85)	120 (105)	65 (60)	
NP-F550	200 (180)	110 (100)	145 (130)	80 (75)	
NP-F730	335 (300)	190 (170)	265 (240)	150 (135)	
NP-F730H/F750	410 (365)	235 (205)	305 (270)	175 (155)	
NP-F930	535 (480)	305 (275)	415 (375)	240 (215)	
NP-F950	630 (570)	360 (325)	475 (430)	275 (245)	

### DCR-TRV315

Battery	Recording with the viewfinder		Recording with the LCD screen	
pack	Continuous*	Typical**	Continuous*	Typical**
NP-F330 (supplied)	100 (90)	55 (50)	80 (70)	45 (40)
NP-F530	170 (155)	95 (85)	130 (115)	75 (65)
NP-F550	205 (185)	115 (105)	165 (145)	95 (80)
NP-F730	350 (310)	200 (175)	280 (250)	160 (140)
NP-F730H/F750	425 (380)	240 (215)	335 (295)	190 (170)
NP-F930	555 (500)	315 (285)	435 (390)	250 (225)
NID EQEO	650 (500)	370 (335)	510 (460)	295 (265)

Approximate number of minutes when you use a fully charged battery

# Approximate infinite or infinites when you use a roung changed battery. \* Approximate continuous recording time at 77°F (25°C). The battery life will be shorter if you use your camcorder in a cold environment. \* Approximate number of minutes when recording while you repeat recording start/stop, zooming and turning the power on/off. The actual battery life may be shorter.

### Step 1 Preparing the power supply

# Playing time

### DCR-TRV203/TRV210

Battery pack	Playing time on LCD screen	Playing time with LCD closed
NP-F330 (supplied)	80 (70)	95 (85)
NP-F530	125 (115)	160 (145)
NP-F550	155 (140)	195 (175)
NP-F730	275 (250)	325 (290)
NP-F730H/F750	325 (285)	395 (355)
NP-F930	430 (385)	515 (465)
NP-F950	495 (450)	610 (550)

### DCR-TRV310

Battery pack	Playing time on LCD screen	Playing time with LCD closed	
NP-F330 (supplied)	70 (65)	95 (85)	
NP-F530	115 (105)	160 (145)	
NP-F550	145 (130)	195 (175)	
NP-F730	260 (235)	325 (290)	
NP-F730H/F750	295 (265)	395 (355)	
NP-F930	405 (370)	515 (465)	
NP-F950	465 (420)	610 (550)	

### DCR-TRV315

Battery pack	Playing time on LCD screen	Playing time with LCD closed
NP-F330 (supplied)	80 (70)	100 (90)
NP-F530	125 (115)	165 (150)
NP-F550	155 (140)	200 (180)
NP-F730	275 (250)	335 (300)
NP-F730H/F750	325 (285)	410 (365)
NP-F930	430 (385)	535 (480)
NP-F950	495 (450)	630 (570)

Approximate number of minutes when you use a fully charged battery

Numbers in parentheses "(  $\,$  )" indicate the time using a normally charged battery. The battery life will be shorter if you use your camcorder in a cold environment.

After charging the battery pack
Disconnect the AC power adaptor from the DC IN jack on your camcorder.

Note on the remaining battery time indicator during recording
The indicator may not be correct, depending on the conditions in which you are
recording. When you close the LCD panel and open it again, it takes about 1 minute for
the correct remaining battery time to be displayed.

### What is "InfoLITHIUM"?

What is "InfoLITHIUM"?

The "InfoLITHIUM" is a lithium ion battery pack which can exchange data such as battery consumption with compatible video equipment. This unit is compatible with the "InfoLITHIUM" battery pack (L. series). Your camcorder operates only with the "InfoLITHIUM" battery. InfoLITHIUM battery and InfoLITHIUM" battery packs have the () InfoLITHIUM mark. "InfoLITHIUM" is a trademark of Sony Corporation.

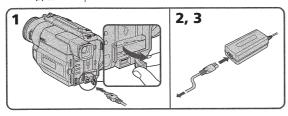
#### Connecting to a wall outlet

- When you use your camcorder for a long time, we recommend that you power it from a wall outlet using the AC power adaptor.

  (1) Open the DC IN jack cover, and connect the AC power adaptor to the DC IN jack on your camcorder with the plug's A mark facing up.

  (2) Connect the power cord to the AC power adaptor.

  (3) Connect the power cord to a wall outlet.



#### WARNING

The power cord must only be changed at a qualified service shop

The set is not disconnected from the AC power source (house current) as long as it is connected to the wall outlet, even if the set itself has been turned off.

- The AC power adaptor can supply power even if the battery pack is attached to your
- cancorder.

  "The DC IN jack has "source priority". This means that the battery pack cannot supply any power if the power cord is connected to the DC IN jack, even when the power cord is not plugged into a wall outlet.

  "Keep the AC power adaptor away from the cancorder if the picture is disturbed.

Using a car battery
Use Sony DC Adaptor/Charger (not supplied).

### Step 2 Inserting a cassette

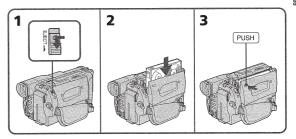
- We recommend using Hi8 video cassettes Hi8.

  If you use standard 8 B tape, be sure to play back the tape on this camcorder. Your camcorder records in the Digitals B system.

  (1) Slide FIECT in the direction of the arrow while pressing the small blue button. The cassette compartment automatically lifts up and opens.

  (2) Insert a cassette with its window facing out and the tab on the cassette up.

  (3) Close the cassette compartment by pressing the "PUSH" mark on the cassette compartment. The cassette compartment automatically goes down.



#### To eject a cassette

Slide EJECT in the direction of the arrow while pressing the small blue button.

- •The recording time when you use your Digital8 D system camcorder on Hi8/standard 8 tape is half the recording time when using the conventional Hi8/standard 8 system camcorder.
- camcorder.

  If you use standard 8 tape, be sure to play back the tape on this camcorder. Mosaic
  pattern noise may appear when you play back standard 8 tape on other VCRs.

  Do not press the cassette compartment down. Doing so may cause malfunction.

To prevent accidental erasure Slide the write-protect tab on the cassette to expose the red mark.



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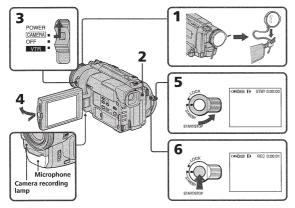
— Recording – Basics —

### Recording a picture

- Your camcorder automatically focuses for you.

  (1) Remove the lens cap by pressing both knobs on its sides and attach the lens cap to the gris structure.

- (1) Remove the lens cap by pressing both knobs on its sides and attatch the lens cap to the grip strap.
   (2) Install the power source and insert a cassette. See "Step 1" and "Step 2" for more information (p. 8 to 13).
   (3) Set the POWER switch to CAMERA while pressing the small green button.
   (4) Open the LCD panel while pressing OPEN. The viewfinder automatically turns off.
   (5) Turn STANDBY to STANDBY.
   (6) Press START/STOP. Your camcorder starts recording. The "REC" indicator appears. The camera recording lamp located on the front of your camcorder lights up. To stop recording, press START/STOP again.
  The recording lamp lights up in the viewfinder when you record with the viewfinder (DCR-TRV203/TRV210/TRV310 only)



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Fasten the grip strap firmly. Do not touch the built-in microphone during recording.

To enable smooth transition
You can make the transition between the last scene you recorded and the next scene smooth as long as you do not eject the cassette. When you exchange the battery pack in the recording mode, set STANDBY to LOCK.

# If you leave your camcorder in the standby mode for 3 minutes while the cassette is inserted

is inserted Your camcorder automatically turns off. This is to save battery power and to prevent battery and tape wear. To resume the standby mode, turn STANDBY down and up again. To start recording, press START/STOP.

### Recording a picture

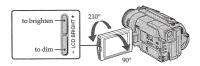
### Adjusting the LCD screen

To adjust the brightness of the LCD screen, press either of the two buttons on LCD

The LCD panel moves about 90 degrees to the viewfinder side and about 210 degrees to

He LCD plant move about 2 of the lens side.

If you turn the LCD panel over so that it faces the other way, the @ indicator appears in the viewfinder and on the LCD screen (Mirror mode).



When closing the LCD panel, set it vertically until it clicks, and swing it into the camcorder body.

When using the LCD screen except in the mirror mode, the viewfinder automatically

When you use the LCD screen outdoors in direct sunlight
The LCD screen may be difficult to see. If this happens, we recommend that you use the viewfinder.

Picture in the mirror mode
The picture on the LCD is a mirror-image. However, the picture will be normal when recorded.

During recording in the mirror mode
While recording in the mirror mode, you cannot operate the following buttons:
ZERO SET MEMORY on the Remote Commander and MENU on your camcorder.

Indicators in the mirror mode
The STBY indicator appears as ■● and REC as ●. Some of the other indicators appear
mirror-reversed and others are not displayed.

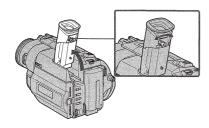
### After recording

- (1) Turn STANDBY down to LOCK
- (2) Close the LCD panel.
- (3) Eject the cassett
- (4) Set the POWER switch to OFF.

#### To record pictures with the viewfinder - adjusting the viewfinder

If you record pictures with the LCD panel closed, check the picture with the viewfinder. Adjust the viewfinder lens to your eyesight so that the indicators in the viewfinder come into sharp focus.

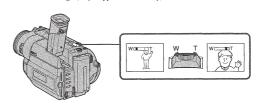
Lift up the viewfinder and move the viewfinder lens adjustment lever.



### Recording a picture

### Using the zoom feature

Move the power zoom lever a little for a slower zoom. Move it further for a faster zoom. Using the zoom function sparingly results in better-looking recordings. ""T side: for telephoto (subject appears closer) "W" side: for wide-angle (subject appears farther away)



Zoom greater than 20x is performed digitally, if you set D ZOOM to ON in the MENU settings. The digital zoom function is set OFF at the factory. (p. 54).



When you shoot close to a subject

If you cannot get a sharp focus, move the power zoom lever to the "W" side until the focus is sharp. You can shoot a subject that is at least about 2 feet 5/8 inch (about 80 cm) away from the lens surface in the telephoto position, or about 1/2 inch (about 1 cm) away in the wide-angle position.

- Notes on digital zoom

   Digital zoom starts to function when zoom exceeds 20x.

  •The picture quality deteriorates as you go toward the "T" side. Set D ZOOM to OFF in the MENU settings. Otherwise the digital zoom activates without notice (p. 54).

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## Recording a picture

### START/STOP MODE setting

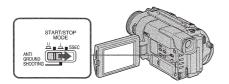
 $\underline{\underline{\mathcal{U}}}$ : Recording starts when you press START/STOP, and stops when you press it again

(factory setting).

ANTI GROUND SHOOTING 1: The camcorder records only while you press START/STOP. Use this mode to avoid recording unnecessary

scenes.

5SEC: When you press use this mode to START/STOP, your camcorder records for 5 seconds and then stops automatically.



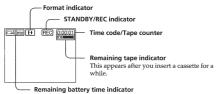
### Notes

You cannot use the fader function in the 5SEC or <u>I</u> mode.
The time code does not appear in the 5SEC mode.

To extend the recording time in the 5SEC mode
Five dots ((\*\*\*)\*\* appear, and then disappear at a rate of one per second. To extend
the recording time, press START/STOP again before all the dots disappear. Recording
continues for about 5 seconds from the moment you press START/STOP.

### Indicators displayed in the recording mode

The indicators are not recorded on tape



Time code (for tapes recorded in the Digital8 F3 system only)

The time code indicates the recording or playback time, "0:00:00" (hours:minutes: seconds) in CAMERA mode and "0:00:00:00" (hours:minutes: seconds:frames) in VTR mode. You cannot rewrite only the time code.

Your camcorder uses the drop frame mode.

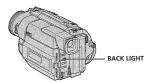
When you play back tapes recorded in the Hi8/standard 8 system, the tape counter appears.

### Recording a picture

### Shooting backlit subjects (BACK LIGHT)

When you shoot a subject with the light source behind the subject or a subject with a light background, use the backlight function.

Press BACK LIGHT in the recording or standby mode. The ☑ indicator appears in the viewfinder or on the LCD screen. To cancel, press BACK LIGHT again.

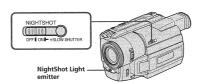


If you press EXPOSURE when shooting backlit subjects The backlight function will be canceled.

### Shooting in the dark (NightShot)

The NightShot function enables you to shoot a subject in a dark place. For example, you can satisfactorily record the environment of nocturnal animals for observation when you use this function.

viewfinder. To cancel the NightShot function, slide NIGHTSHOT to OFF.



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#### Using +SLOW SHUTTER

The NightShot +Slow shutter mode makes subjects more than four times brighter than those recorded in the NightShot mode.

(NIGHTSHOT)
To cancel the NightShot +Slow shutter mode, slide NIGHTSHOT to OFF.

#### Using the NightShot Light

The picture will be clearer with the NightShot Light on. To enable NightShot Light, set N.S.LIGHT to ON in the MENU settings (p. 54).

- Do not use the NightShot function in bright places (ex. outdoors in the daytime). This may cause your camcorder to malfunction.

  • When you keep NIGHTSHOT set to ON in normal recording, the picture may be
- Trick you keep in the Night Shot I will be recorded in incorrect or unnatural colors.

   If focusing is difficult with the autofocus mode when using the NightShot function, focus manually.

#### While using the NightShot function, you can not use the following functions:

- Exposure PROGRAM AE

- Digital effect\*
- \* You cannot use these functions only in the NightShot +Slow shutter mode

#### Shutter speed in the NightShot +Slow shutter mode

Indicator	Shutter speed	
<b>1</b> (NIGHTSHOT1)	1/15	
©2 (NIGHTSHOT2)	1/4	

#### The +SLOW SHUTTER button does not work:

- while the fader function is set or in use
   while the digital effect function is in use
   when NIGHTSHOT is set to OFF

#### NightShot Light

NightShot Light rays are infrared and so are invisible. The maximum shooting distance using the NightShot Light is about 10 feet (3 m). The shooting distance will be twice or more in the NightShot +Slow shutter mode.

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– Playback – Basics –

### Playing back a tape

You can monitor the playback picture on the LCD screen or in the viewfinder. You can control playback using the Remote Commander supplied with your camcorder.

(1) Install the power source and insert the recorded tape.

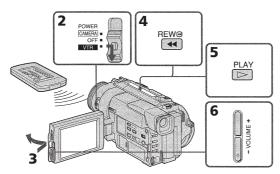
(2) Set the POWER switch to VTR while pressing the small green button. The

- video control buttons light up.

  (3) Open the LCD panel while pre

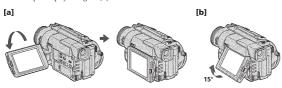
  (4) Press ◀ to rewind the tape.

- (6) Tress to start playback.
   (6) To adjust the volume, press either of the two buttons on VOLUME. The speaker on your camcorder is silent when the LCD panel is closed.



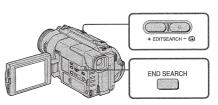
# To stop playback Press ■.

When monitoring on the LCD screen
You can turn the LCD panel over and move it back to the camcorder body with the
LCD screen facing out [a]. You can adjust the angle of the LCD panel by lifting the LCD
panel up by 15 degrees [b].



# Checking the recording - END SEARCH / EDITSEARCH / Rec Review

You can use these buttons to check the recorded picture or shoot so that the transition between the last recorded scene and the next scene you record is smooth.



#### END SEARCH

You can go to the end of the recorded section after you record.

Press END SEARCH in the standby mode.

The last 5 seconds of the recorded section are played back and playback stops. You can monitor the sound from the speaker or headphones.

#### EDITSEARCH

You can search for the next recording start point.

Hold down the +/- (@) side of EDITSEARCH in the standby mode. The recorded section is played back.

+ to go forward

in the control of the control o

#### **Rec Review**

You can check the last recorded section.

Press the - ( $\mathfrak S$ ) side of EDITSEARCH momentarily in the standby mode. The last few seconds of the recorded section are played back. You can monitor the sound from the speaker or headphones.

- Notes

  •END SEARCH, EDITSEARCH and Rec Review work only for tapes recorded in the Digitala (P) system.

  •If you start recording after using the end search function, occasionally, the transition between the last scene you recorded and the next scene may not be smooth.

  •The end search function may not work when there is a blank portion between pictures on a tape.

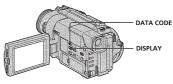
Once you eject the cassette after you have recorded on the tape. The end search function does not work.

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### Playing back a tape

### To display the screen indicators - Display function

Press DISPLAY on your camcorder or the Remote Commander supplied with your camcorder.
The indicators appear on the LCD screen.
To make the indicators disappear, press DISPLAY again.



Using the data code function

Your camcorder automatically records not only images on the tape but also the recording data (date/time or various settings when recorded) (Data code function).

Press DATA CODE on your camcorder or the Remote Commander in the play back

The display changes as follows: date/time → various settings (\$

The display claimings as followings (SteadyShot, exposure AUTO/MANUAL, white balance, gain, shutter speed, aperture value)  $\rightarrow$  no indicator



Not to display recording data Set DATA CODE to DATE in the MENU settings (p. 54).

The display changes as follows: date/time → no indicator

Note on the data code function The data code function works only for tapes recorded in the Digital8  $extbf{H} extbf{9}$  system.

Recording data is your camcorder's information when you have recorded. In the recording mode, the recording data will not be displayed.

### When you use data code function, bars (-- -- ) appear if:

A blank section of the tape is being played back.
The tape is unreadable due to tape damage or noise.
The tape was recorded by a camcorder without the date and time set.

To view a still picture (playback pause)
Press II during playback. To resume playback, press II or ▶

#### To advance the tape

Press ▶ in the stop mode. To resume normal playback, press ▶

To rewind the tape
Press ◄ in the stop mode. To resume normal playback, press ►

### To change the playback direction

Press < on the Remote Commander during playback to reverse the playback direction. To resume normal playback, press  $\blacktriangleright$  .

# To locate a scene monitoring the picture (picture search) Keep pressing ◀◀ or ▶▶ during playback. To resume normal playback, release button.

To monitor the high-speed picture while advancing or rewinding the tape (skip scan)
Keep pressing ◄ while rewinding or ▶ while advancing the tape. To resume rewinding or advancing, release the button.

To view the picture at slow speed (slow playback)
Press ▶ on the Remote Commander during playback. For slow playback in the reverse
direction, press ►, then press ▶ on the Remote Commander. To resume normal
playback, press ►.

### To view the picture at double speed

Press x2 on the Remote Commander during playback. For double speed playback in the reverse direction, press < then press x2 on the Remote Commander. To resume normal playback, press .

To view the picture frame-by-frame
Press II▶ on the Remote Commander in the playback pause mode. For frame-by-frame playback in the reverse direction, press ◄III. To resume normal playback, press ▶.

To search the last scene recorded (END SEARCH)
Press END SEARCH in the stop mode. The last 5 seconds of the rec
back and stops.

#### In the various playback modes

- Noise may appear when your camcorder plays back tapes recorded in the Hi8/standard 8 system.
  Sound is muted.
- ous recording may appear as a mosaic image when playing back in the • The previous reco Digital8 • system

- When the playback pause mode lasts for 3 minutes

   Your camcorder automatically enters the stop mode. To resume playback, press ▶

   The previous recording may appear.

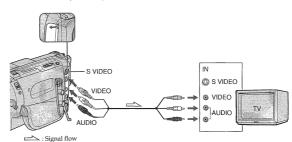
Slow playback for tapes recorded in the Digitals  $\{\cdot\}$  system The slow playback can be performed smoothly on your camcorder; however, this function does not work for an output signal from the  $\{\cdot\}$  DV IN/OUT jack.

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# Viewing the recording on TV

Connect your camcorder to your TV or VCR with the A/V connecting cable supplied with your camcorder to watch the playback picture on the TV screen. You can operate the playback control buttons in the same way as when you monitor playback pictures on the LCD screen. When monitoring the playback picture on the TV screen, we recommend that you power your camcorder from a wall outlet using the AC power adaptor (p. 12). Refer to the operating instructions of your TV or VCR.

Open the jack cover. Connect your camcorder to the TV using the A/V connecting cable. Then, set the TV/VCR selector on the TV to VCR.



If your TV is already connected to a VCR

Connect your camcorder to the LINE IN input on the VCR by using the A/V connecting cable supplied with your camcorder. Set the input selector on the VCR to LINE.

### If your TV or VCR is a monaural type

Connect the yellow plug for video and the white plug for audio on both your camcorder and the TV or the VCR (you do not connect the red plug). With this connection, the sound is monaural even on stereo models.

#### To connect to a TV or VCR without Video/Audio input jacks

Use an NTSC system RFU adaptor (not supplied). Refer to the operating instructions of your TV or VCR and the RFU adaptor. With an RFU adaptor, the sound is monaural.

If your TV or VCR has an S video jack
Connect using an S video cable (not supplied) to obtain high-quality pictures. With this
connection, you do not need to connect the yellow (video) plug of the A/V connecting
cable.

Connect the S video cable (not supplied) to the S video jacks on both your camcorder and the TV or the VCR.

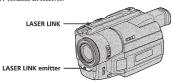
25

g Ope

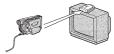
### Viewing the recording on TV

### Using the AV cordless IR receiver

Once you connect the AV cordless IR receiver (not supplied) to your TV or VCR, you can easily view the picture on your TV. For details, refer to the operating instructions of the AV cordless IR receiver.



- After connecting your TV and AV cordless IR receiver, set the POWER switch on the AV cordless IR receiver to ON.
   Turn the TV on and set the TV/VCR selector on the TV to VCR.
   Press LASER LINK. The lamp of LASER LINK lights up.
   Press ➤ on your camcorder to start playback.
   Point the LASER LINK emitter at the AV cordless IR receiver. Adjust the position of your camcorder and the AV cordless IR receiver to obtain clear playback pictures. playback pictures



**To cancel the laser link function**Press LASER LINK. The lamp on the LASER LINK button goes out.

If you turn the power off Laser link turns off automatically

### If you use a Sony TV

- If you use a Sony TV

  -You can turn on the TV automatically when you press LASER LINK or ▶. To do so, set AUTO TV ON to ON in the MENU settings and turn the TV's main switch on, then do either of the following:

  -Point the LASER LINK emitter at the TV's remote sensor and press LASER LINK.

  -Turn on LASER LINK and press ▶.

  -You can switch the video input of the TV automatically to the one which the AV cordless IR receiver is connected. To do so, set AUTO TV ON to ON and TV INPUT to the same video input (1, 2, 3) in the MENU settings. With some models, however, the picture and sound may be disconnected momentarily when the video input (1, 2, 5).
- The above feature may not work on some TV models

When laser link is activated (the LASER LINK button is lit), your camcorder consupower. Press LASER LINK to turn off the laser link function when it is not needed.

### Advanced Recording Operations —

# Photo recording

You can record a still picture like a photograph. This mode is useful when you want to record a picture such as a photograph or when you print a picture using a video printer

- (1) Set the POWER switch to CAMERA
- (7) Set the FOWN switch to Change.

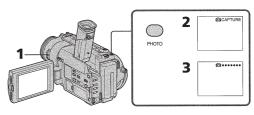
  (2) In the standby mode, keep pressing PHOTO lightly until a still picture appears. The CAPTURE indicator appears. Recording does not start yet. To change the still picture, release PHOTO, select a still picture again, and then press and hold PHOTO lightly.

press and hold PHOLO IIgnuy.

(3) Press PHOTO deeper.

The still picture in the viewfinder or on the LCD screen is recorded for about seven seconds. The sound during those seven seconds is also recorded.

During recording, the image you are shooting appears in the viewfinder or on the LCD pages.



- During photo recording, you cannot change the mode or setting.
   During photo recording, you cannot turn your camcorder off or press the PHOTO

- button.

  'The PHOTO button does not work:

   while the digital effect function is set or in use.

   while the fader function is in use.

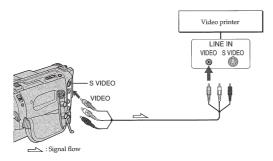
   while the fader function is in use.

  When recording a still picture, do not shake your camcorder. The picture may fluctuate.

To use the photo recording function using the Remote Commander Press PHOTO in the Remote Commander. Your camcorder record a picture on the LCD screen or in the viewfinder immediately.

# To use the photo recording function during normal CAMERA recording Press PHOTO deeper. The still picture is then recorded for about seven seconds and your camcorder returns to the standby mode. You cannot select another still picture.

You can print a still picture by using the video printer (not supplied). Connect the video printer using the A/V connecting cable supplied with your camcorder. Connect the yellow plug of the cable to the VIDEO jack and to the video input of the video printer. Refer to the operating instructions of the video printer as well.



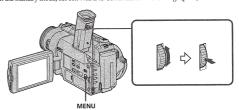
If the video printer is equipped with S video input
Use the S video connecting cable (not supplied). Connect it to the S VIDEO jack and the S video input of the video printer.

# Using the wide mode

You can record a 16:9 wide picture to watch on the 16:9 wide-screen TV (16:9 WIDE). The picture with black bands at the top and the bottom on the LCD screen or in the viewfinder (DCR-TRV315 only) [a] is normal. The picture on a normal TV or in the viewfinder (DCR-TRV203/TRV210/TRV310 only) [b] is portizentally compressed. You can watch the picture of normal images on a wide-screen TV [c].



In the standby mode, set 16:9WIDE to ON in the MENU settings (p. 54).



To cancel the wide mode
Set 16:9WIDE to OFF in the MENU settings.

#### If the wide mode is set to ON

The SteadyShot function does not work. If you set 16:9WIDE to ON in the MENU settings when the SteadyShot function is working, 'O' flashes and the SteadyShot function does not function.

#### In the wide mode

You cannot select the old movie function with DIGITAL EFFECT and the bounce function with FADER.

**During recording** You cannot select or cancel the wide mode.

Connection for a TV
Picture recorded in the 16:9WIDE mode automatically appear on the TV screen at full size when:
• you connect your camcorder to a TV that is compatible with the video ID (ID-1/ID-2) system.
• you connect your camcorder to the S video jack on the TV.

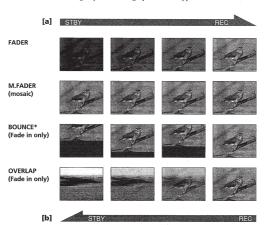
#### ID-2 system

אייביים ווייביא אייביים The ID-2 system is a system which converts the copyright signal to the analog system with ID-1 signals inserted between video signals.

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# **Using the fader function**

You can fade in or out to give your recording a professional appearance.



MONOTONE
When fading in, the picture gradually changes from black-and-white to color.
When fading out the picture gradually changes from color to black-and-white

\* You cannot use this function when D ZOOM is set to ON in the MENU settings.

### Using the fader function

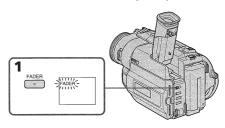
(1) When fading in [a]

In the standby mode, j
When fading out [b] press FADER until the desired fader indicator flashes.

when fading out [D]
In the recording mode, press FADER until the desired fader indicator flashes.
The indicator changes as follows:
FADER → M.FADER → BOUNCE → MONOTONE → OVERLAP →

no indicator The last selected fader mode is indicated first of all.

(2) Press START/STOP. The fader indicator stops flashing



To cancel the fader function

After the fade in/out is carried out: Your camcorder automatically returns to the  $normal\ mode.$  Before the fade in/out is carried out: Before pressing START/STOP, press FADER until

the indicator disappears

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- Note

  The overlap function works only for tapes recorded in the Digital8 H system.

  You cannot use the following functions while using the fader function. Also, you cannot use the fader function while using the following functions.

  Digital effect of PROGRAM AE (Overlap function only)

  NightShot +Slow shutter

  Photo recording

#### When the OVERLAP indicator appears

The camcorder automatically memorizes the image recorded on a tape. As the image is being memorized, the OVERLAP indicator flashes fast, and the playback picture is displayed. At this stage, the picture may not be recorded clearly, depending on the tape condition.

#### When START/STOP MODE is set to 1 or 5SEC

You cannot use the fader function

### While using the bounce function, you cannot use the following functions

- Exposure Focus Zoom Picture effect

Note on the bounce function
The BOUNCE indicator does not appear in the following mode or functions:
- D ZOOM is set to ON in the MENU settings
- Wide mode
- Picture effect
- PROGRAM AE

### **Using special effects - Picture effect**

You can digitally process images to obtain special effects like those in films or on the

 $\mbox{\bf NEG.}$   $\mbox{\bf ART}$   $\mbox{\bf [a]}$  : The color and brightness of the picture is reversed.

SEPIA: The picture is sepia.

The picture is sepia.

The picture is monochrome (black-and-white).

SOLARIZE [b]: The light intensity is clearer, and the picture looks like an illustration.

SUM [c]: The picture expands vertically.

STRETCH [d]: The contrast of the picture is emphasized, and the picture looks like an animated cartoon.

MOSAIC [f]: The picture is mosaic.

MOSAIC [f]: The picture is mosaic.

[a]









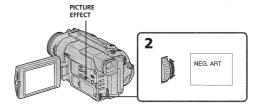


(1) Press PICTURE EFFECT in the standby or recording mode.

The picture effect indicator appears.

(2) Turn the SEL/PUSH EXEC dial to select the desired picture effect mode.

The indicator changes as follows: NEG.ART  $\leftrightarrow$  SEPIA  $\leftrightarrow$  B&W  $\leftrightarrow$  SOLARIZE  $\leftrightarrow$  SLIM  $\leftrightarrow$  STRETCH  $\leftrightarrow$  PASTEL  $\leftrightarrow$  MOSAIC



# To turn the picture effect function off Press PICTURE EFFECT.

While using the picture effect function
You cannot select the old movie mode with DIGITAL EFFECT.

When you turn the power off Your camcorder automatically returns to the normal mode

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# Using special effects - Digital effect

You can add special effects to recorded pictures using the various digital functions. The sound is recorded pormally.

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You can record a still picture so that it is superimposed on a moving picture.

## FLASH (FLASH MOTION)

You can record still pictures successively at constant intervals

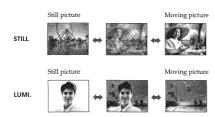
### LUMI. (LUMINANCEKEY)

You can swap a brighter area in a still picture with a moving picture

You can record the picture so that an incidental image like a trail is left. SLOW SHTR (SLOW SHUTTER)

# You can slow down the shutter speed. The slow shutter mode is good for recording dark pictures more brightly. However, the picture may be less clear.

OLD MOVIE You can add an old movie type atmosphere to pictures. Your camcorder automatically sets the wide mode to ON, picture effect to SEPIA, and the appropriate shutter speed.



### Using special effects - Digital effect

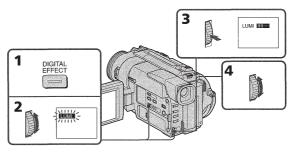
- (1) While your camcorder is in the standby or recording mode, press DIGITAL EFFECT. The digital effect indicator appears.

  (2) Turn the SEL/PUSH EXEC dial to select the desired digital effect mode.
- The indicator changes as follows: STILL  $\longleftrightarrow$  FLASH  $\longleftrightarrow$  LUMI.  $\longleftrightarrow$  TRAIL  $\longleftrightarrow$  SLOW SHTR  $\longleftrightarrow$  OLD MOVIE
- (3) Press the SEL/PUSH EXEC dial. The indicator lights up and the bars appear. In the STILL and LUMI. modes, the still picture is stored in memory.

  (4) Turn the SEL/PUSH EXEC dial to adjust the effect.

STILL	The rate of the still picture you want to superimpose on the moving picture
FLASH	The interval of flash motion
LUMI.	The color scheme of the area in the still picture which is to be swapped with a moving picture
TRAIL	The vanishing time of the incidental image
SLOW SHTR	Shutter speed. The larger the shutter speed number, the slower the shutter speed.
OLD MOVIE	No adjustment necessary

The more bars there are on screen, the stronger the digital effect. The bars appear in the following modes: STILL, FLASH, LUMI. and TRAIL.



To cancel the digital effect Press DIGITAL EFFECT. The digital effect indicator disappears

### Using special effects - Digital Effect

- The following functions do not work during digital effect:

- The following numeric Fader
   Fader
   Low lux mode of PROGRAM AE
   Photo recording
   NightShot +Slow shutter
   The following functions do not work in the slow shutter mode:
   Fxoosure
- Exposure
   PROGRAM AE
   The following functions do not work in the old movie mode:

- Picture effect PROGRAM AE

When you turn the power off
The digital effect will be automatically canceled.

When recording in the slow shutter mode Auto focus may not be effective. Focus manually using a tripod.

#### Shutter speed

Shutter speed number	Shutter speed	
SLOW SHTR 1	1/30	
SLOW SHTR 2	1/15	
SLOW SHTR 3	1/8	
SLOW SHTR 4	1/4	

# **Using the PROGRAM AE function**

You can select PROGRAM AE (Auto Exposure) mode to suit your specific shooting

♠ Spotlight mode
This mode prevents people's faces, for example, from appearing excessively white
when shooting subjects lit by strong light at weddings or in the theater.

🚵 Soft portrait mode

This mode brings out the subject while creating a soft background for subjects such as people or flowers, and faithfully reproduces skin color.

#### ℜ Sports lesson mode

This mode minimizes shake on fast-moving subjects such as in tennis or golf.

This mode prevents people's faces from appearing dark in strong light or reflected light, such as at a beach in midsummer or on a ski slope.

#### Sunset & moon mode

This mode allows you to maintain atmosphere when you are recording sunsets, general night views, fireworks displays and neon signs.

#### ▲ Landscape mode

This mode is for when you are recording distant subjects such as mountains and prevents your camcorder from focusing on glass or metal mesh in windows when you are recording a subject behind glass or a screen.

♀ Low lux mode This mode makes subjects brighter in insufficient light.











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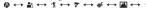


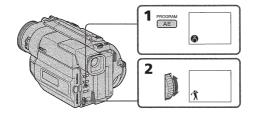
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### Using the PROGRAM AE function

- (1) Press PROGRAM AE in the standby mode. The PROGRAM AE indicator
- appears.

  (2) Turn the SEL/PUSH EXEC dial to select the desired PROGRAM AE mode. The indicator changes as follows:  $\textcircled{a} \longleftrightarrow \textcircled{a} \longleftrightarrow \textcircled{f} \longleftrightarrow \textcircled{f} \longleftrightarrow \textcircled{g} \longleftrightarrow \textcircled{a} \longleftrightarrow \textcircled{g}$





### To turn the PROGRAM AE function off

- Notes

  In the spotlight, sports lesson and beach & ski modes, you cannot take close-ups. This is because your camcorder is set to focus only on subjects in the middle to far distance.

  In the sunset & moon and landscape modes, your camcorder is set to focus only on distance in the sunset is set.
- If the states to moor and randscape modes, your cancerder a set distant subjects.
   The following functions do not work in the PROGRAM AE mode:
   Slow shutter
- -Old movie

- Bounce
   The following functions do not work in the low lux mode:
   Digital effect
   Overlap
   Exposure
   If you press PROGRAM AE when using the NightShot function, the PROGRAM AE indicator flashes and the PROGRAM AE function does not work.

# If you are recording under a discharge tube such as a fluorescent lamp, sodium lamp or mercury lamp Elickering or changes in color may occur in the following modes. If this happens, turn the PROGRAM AE function off.

- Soft portrait mode Sports lesson mode

# Adjusting the exposure manually

You can manually adjust and set the exposure. When you turn your camcorder on, it You can manually adjust and set the exposure. When you turn you'r camcorder on will automatically be in the automatic exposure mode. This mode works to record subjects so that they are recorded slightly brighter than they actually are. Adjust the exposure manually in the following cases:

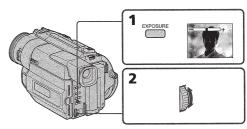
The subject is backlit

Bright subject and dark background

To record dark pictures (e.g. night scenes) faithfully

- (1) Press EXPOSURE in the standby or recording mode. The exposure indicator appears.

  (2) Turn the SEL/PUSH EXEC dial to adjust the brightness.



## To return to the automatic exposure mode

Press EXPOSURE again

### Note

When you adjust the exposure manually, the following function and modes do not

- work:

   Backlight

   Slow shutter

   Old movie

If you change the PROGRAM AE mode or slide NIGHTSHOT to ON Your camcorder automatically returns to the automatic exposure mode

- You can gain better results by manually adjusting the focus in the following cases:

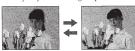
  •The autofocus mode is not effective when shooting

  -subjects through glass coated with water droplets

  -horizontal stripes

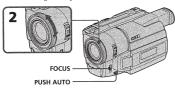
  -subjects with little contrast with backgrounds such as walls and sky

  •When you want to change the focus from a subject in the foreground to a subject in the
- Shooting a stationary subject when using a tripod



(1) Set FOCUS to MANUAL in the standby or recording mode. The @ indicator

appears.
(2) Turn the focus ring to sharpen focus



# To return to the autofocus mode Set FOCUS to AUTO.

To record distant subjects

When you press POCUS down to INFINITY. The lens focuses on and 

indicator appears. When you release POCUS, your camcorder returns to the manual focus mode Use this mode when your camcorder focuses on near objects even though you are trying to shoot a distant object.

To shoot with auto focusing momentarily
Press PUSH AUTO.
The auto focus functions while you are pressing PUSH AUTO.
Use this button to focus on one subject and then another with smooth focusing.
When you release PUSH AUTO, manual focusing resumes.

# Shooting in relatively dark places or shooting fast-moving subjects in relatively

 $\label{eq:bright places} \mbox{Shoot at the "W" (wide-angle) position after focusing at the "T" (telephoto) position.}$ 

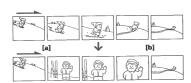
When you shoot close to the subject Focus at the end of the "W" (wide-angle) position

The following indicators may appear when recording a distant subject.
when the subject is too close to focus on.

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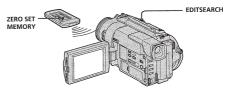
Inserting a scene

You can insert a scene in the middle of a recorded tape by setting the start and end points. The previously recorded frames between these start and end points will be erased. Use the Remote Commander for this operation.



(1) While your camcorder is in the standby mode, keep pressing EDITSEARCH, and release the button at the insert end point [b].
(2) Press ZERO SET MEMORY. The ZERO SET MEMORY indicator flashes and

- (2) Press ZERC SEI MEMORY. The ZERC SEI MEMORY Inducator hashes and the tape counter resets to zero.
  (3) Keep pressing the -@ side of EDITSEARCH and release the button at the insert start point [a].
  (4) Press START/STOP to start recording. The scene is inserted. Recording stops automatically at the tape counter zero point. Your camcorder returns to the standby mode.



Notes  $^{\circ}$  The zero set memory function works only for tapes recorded in the Digita8  $^{\circ}$  System. The picture and the sound may be distorted at the end of the inserted section when it is played back.

If you re-record on the section which contains a non-recorded section. The zero set memory function may not work correctly.

When START/STOP MODE is set to <u>i</u> or 5SEC

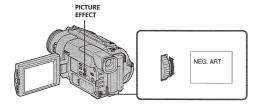
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### - Advanced Playback Operations -

### Playing back a tape with picture effects

During playback, you can process a scene using the picture effect functions: NEG.ART, SEPIA, B&W and SOLARIZE.

During playback, press PICTURE EFFECT and turn the SEL/PUSH EXEC dial until the desired picture effect indicator (NEG.ART, SEPIA, B&W or SOLARIZE) flashes. For details of each picture effect function, see page 33.



# To cancel the picture effect function Press PICTURE EFFECT.

- Notes

   The picture effect function works only for tapes recorded in the Digitals  $\Theta$  system.

   You cannot process externally input scenes using the picture effect function.

   To record pictures that you have processed using the picture effect function, record the pictures on the VCR.

Pictures processed by the picture effect function
Picture processed by the picture effect function are not output through the b DV IN/OUT jack.

When you set the POWER switch to OFF or stop playing back The picture effect function is automatically canceled.

### Playing back a tape with digital effects

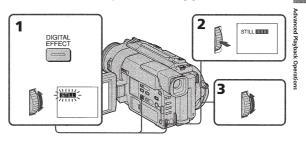
During playback, you can process a scene using the digital effect functions: STILL, FLASH, LUML and TRAIL.

- FI.ASH, LUMI. and TRAIL.

  (1) During playback, press DIGITAL EFFECT and turn the SEL/PUSH EXEC dial until the desired digital effect indicator (STILL, FLASH, LUMI. or TRAIL) flashes.

  (2) Press the SEL/PUSH EXEC dial.
- The digital effect indicator lights up and the bars appear. In the STILL or LUMI. mode, the picture where you press the SEL/PUSH EXEC dial is stored in memory as a still picture.

  (3) Turn the SEL/PUSH EXEC dial to adjust the effect.
- For details of each digital effect function, see page 34



### To cancel the digital effect function

- Notes

   The digital effect function works only for tapes recorded in the Digital8 D system.

   You cannot process externally input scenes using the digital effect function.

   To record pictures that you have processed using the digital effect function, record the pictures on the VCR.

Pictures processed by the digital effect function

Picture processed by the digital effect function are not output through the  $\frac{1}{8}$  DV IN/OUT jack.

When you set the POWER switch to OFF or stop playing back The digital effect function is automatically canceled.

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- Your camcorder goes forward or backward to automatically stop at a desired scene having a tape counter value of "0.00.00". Use the Remote Commander for this operation. Use this function, for example, to view a desired scene later on during playback.

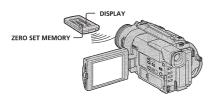
  (1) In the playback mode, press DISPLAY.

  (2) Press ZERO SET MEMORY at the point you want to locate later. The tape counter shows "0.00:00" and the ZERO SET MEMORY indicator flashes.

  (3) Press when you want to stop playback.

  (4) Press to rewind the tape to the tape counter's zero point. The tape stops automatically when the tape counter reaches approximately zero. The ZERO SET MEMORY indicator disappears and the time code appears.

  (5) Press ■. Playback starts from the tape counter's zero point.



#### Notes

- Notes

  The zero set memory function works only for tapes recorded in the Digitals \$\mathbf{D}\$ system

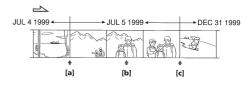
  When you press ZERO SET MEMORY before rewinding the tape, the zero set memory function will be canceled.

  There may be a discrepancy of several seconds from the time code.

  The zero set memory function may not work when there is a blank portion between pictures on a tape.

# Searching a recording by date

You can automatically search for the point where the recording date changes and start playback from that point (Date search). Use the Remote Commander for this operation. Use this function to check where recording dates change or to edit the tape at each recording date.



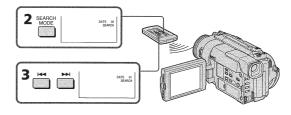
- (1) Set the POWER switch to VTR.
- (2) Press SEARCH MODE on the Remote Commander repeatedly, until the date search indicator appears.
- search indicator appears.

  The indicator changes as follows:

  DATE SEARCH → PHOTO SEARCH → PHOTO SCAN → no indicator

  (3) When the current position is [b], press I◄ to search towards [a] or press ▶► to search towards [c]. Your camcorder automatically starts playback at the

point where the date changes.
Each time you press I◀◀ or ▶▶I, the camcorder searches for the previous or



To stop searching Press ■.

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### Searching a recording by date

- Notes on the date seach mode  $^{\circ}$  The date search works only for tapes recorded in the Digital8  $\Theta$  system.  $^{\circ}$  If one day's recording is less than one minute, your camcorder may not accurately find the point where the recording date changes.

If a tape has a blank portion in the recorded portions. The date search function will not work correctly.

### Searching for a photo - Photo search/ Photo scān

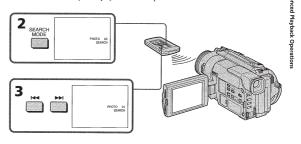
You can search for the recorded still picture (photo search).
You can also search for still pictures one after another and display each picture for five seconds automatically (photo scan). Use the Remote Commander for these operations.

- (1) Set the POWER switch to VTR.
- (2) Press SEARCH MODE on the Remote Commander repeatedly, until the photo
- (2) Press SEARCH MODE on the Remote Commander repeatedly, until the photo search indicator appears.

  The indicator changes as follows:

  DATE SEARCH → PHOTO SEARCH → PHOTO SCAN → no indicator

  (3) Press I◄ or ▶ it to select the photo for playback. Each time you press I◄ or ▶ it, the camcorder searches for the previous or next photo. Your camcorder automatically starts playback from the photo.



To stop searching

If a tape has a blank portion in the recorded portions
The photo search function may not work correctly.

### Searching for a photo - Photo search/Photo scan

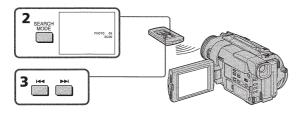
#### Scanning photo

(1) Set the POWER switch to VTR.

(2) Press SEARCH MODE on the Remote Commander repeatedly, until the photo scan cator appears

The indicator changes as follows:
DATE SEARCH → PHOTO SEARCH → PHOTO SCAN → no indicator

(3) Press I◀◀ or ▶►I.
Each photo is played back for about 5 seconds automates.



# To stop scanning Press ■.

The photo search and photo scan work only for tapes recorded in the Digital8 D system.

— Editing on Other Equipment —

# **Dubbing a tape**

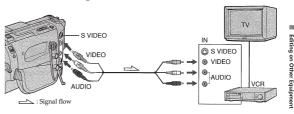
#### Using the A/V connecting cable or S video connecting cable (not supplied)

(not supplied)
Connect your camcorder to the VCR using the A/V connecting cable supplied with your camcorder.

Set the input selector on the VCR to LINE, if available.

- (1) Insert a blank tape (or a tape you want to record over) into the VCR, and insert the recorded tape into your camcorder.

  (2) Set the POWER switch to VTR.
- (3) Play back the recorded tape on your camcorder.(4) Start recording on the VCR.



# When you have finished dubbing a tape Press ■ on both your camcorder and the VCR.

If you have displayed the screen indicators on the TV
Make the indicators disappear by pressing SEARCH MODE on the Remote
Commander, DISPLAY or DATA CODE so that they will not be superimposed on the
edited tape.

You can edit on VCRs that support the following systems  $\blacksquare$  8 mm,  $\blacksquare$   $\blacksquare$  Hi8,  $\blacksquare$  S VHS,  $\blacksquare$   $\blacksquare$  Betamax,  $\blacksquare$  Beta

If your VCR is a monaural type Connect the yellow plug for video and the white plug for audio on both your camcorder and the VCR. You do not need to connect the red plug. With this connection, the sound will be monaural.

Connect using an S video cable (not supplied) to obtain high-quality pictures With this connection, you do not need to connect the yellow (video) plug of the A/V connecting cable.

Connect an S video cable (not supplied) to the S video jacks of both your camcorder and the VCR.

To perform a more precise editing Connect a LANC cable (not supplied) to your camcorder and other video equipment having fine synchro-editing function, using this camcorder as a player.

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### **Dubbing a tape**

Using the i.LINK cable
Simply connect the VMC-II.4415/II.4435/2DV/4DV i.LINK cable (not supplied) to i DV IN/OUT and to DV IN/OUT of the DV products. With digital-to-digital connection, video and audio signals are transmitted in digital form for high-quality editing. You cannot dub the screen indicators.

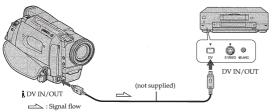
(1) Insert a blank tape (or a tape you want to record over) into the VCR, and insert the recorded tape into your camcorder.

(2) Set the POWER switch to VTR.

(3) Play back the recorded tape on your camcorder.

(4) Start recording on the VCR.

- (4) Start recording on the VCR



# When you have finished dubbing a tape Press ■ on both your camcorder and the VCR.

Note on tapes that are not recorded in the Digital8 [] system. The picture may fluctuate. This is not a malfunction.

During playback of tapes recorded in the Hi8/ standard 8 system Digital, signals are output as the image signals from the 1, DV IN/OUT jack.

You can connect one VCR only using the i.LINK cable.

During digital editing
You cannot use DIGITAL EFFECT button functions.

# You can also use your camcorder as a recorder

- You can use your camcorder as a levorue
   You can use your camcorder as a player or recorder without changing the connection
   In this case, the DV IN indicator appears in the viewfinder or on screen. The DV IN
   indicator may appear on both equipment.
   When using your camcorder as a recorder, the color balance mey be incorrect on the
- When using your camcorder as a recorder, the color balance monitor screen. This, however, is not recorded on the tape.

If you record playback pause picture via the DV jack
The recorded picture becomes rough. Also, when you play back the recorded picture on other video equipment, the picture may jitter.

### Recording video or TV programs

You can record a tape from another VCR or a TV program from a TV that has video/
audio outputs. Use your camcorder as a recorder. Turn down the volume of your
camcorder. Otherwise, the picture may be distorted.

(1) Insert a blank tape (or a tape you want to record over) into your camcorder. If
you are recording a tape from the VCR, insert a recorded tape into the VCR.

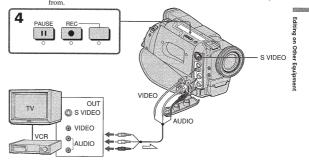
(2) Set the POWER switch to VTR.

(3) Set DISPLAY to LCD in the MENU settings (p. 54). The picture from a TV or
VCR appears in the viewfinder or on the LCD screen.

(4) Press → REC and the button on its right simultaneously on your camcorder,
then immediately press ■ on your camcorder.

(5) Press ▶ on the VCR to start playback if you are recording a tape from VCR.
Select a TV program if you are recording from TV.

(6) Press ■ on your camcorder at the scene where you want to start recording
from.



: Signal flow

- Notes  $^{\circ}$  To enable smooth transition, we recommend that you do not mix pictures recorded in the Hi8/standard 8 with the Digital8  $^{\circ}$  system on a tape.  $^{\circ}$  If you fast-forward or slow-playback on the other equipment, the image being recorded may turn back and white. When recording from other equipment, be sure to play back the original tape at normal speed.

If your VCR is a monaural type
Connect the yellow plug for video and the white plug for audio on both your
camcorder and the VCR (you do not need to connect the red plug). With this
connection, the sound will be monaural.

Connect using an 5 video cable (not supplied) to obtain high-quality pictures With this connection, you do not need to connect the yellow (video) plug of the  $\rm A/V$ 

with this conflection, you do not need to connect the yellow (video) plug of the A/V connecting cable.

Connect an S video cable (not supplied) to the S video jacks of both your camcorder and VCR.

If your VCR or TV does not have an S video out jack, do not connect an S video cable (not supplied) to your camcorder. If you connect an S video cable, the picture may not appear on screen.

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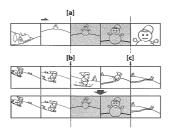
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## Inserting a scene from a VCR

### Replacing recording on a tape - Insert Editing

You can insert a new scene from a VCR onto your originally recorded tape by specifying the insert start and end points. Use the Remote Commander for this operation. Connections are the same as in "Recording video or TV programs" of page 51.

Insert a cassette containing the desired scene to insert into the VCR



### Inserting a scene from a VCR

(2) On the VCR, locate just before the insert start point [a], then press II to set the VCR to the playback pause mode.
 (3) On your camcorder, locate the insert end point [c] by pressing ◄ or ▶. Then

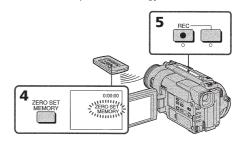
press II to set it to the playback pause mode.

(4) Press ZERO SET MEMORY on the Remote Commander. The ZERO SET MEMORY indicator flashes and the end point of the insert is stored in memory.

(5) On your camcorder, locate the insert start point [b] by pressing ◄◄, then press two ♠ REC buttons at same time to set your camcorder to the recording pause mode.

(6) First press ■ on the VCR, and after a few seconds press ■ on your camcorder to start inserting the new scene.

Inserting automatically stops near the zero point on the tape counter. Your camcorder automatically returns to the recording pause mode.



**To change the insert end point**Press ZERO SET MEMORY again after step 5 to erase the ZERO SET MEMORY indicator and begin from step 3.

The zero set memory function works only for tapes recorded in the Digital8 D system.
The picture and sound recorded on the section between the insert start and end points will be erased when you insert the new scene.

When the inserted picture is played back
The picture may be distorted at the end of the inserted section. This is not a
malfunction.

To insert a scene without setting the insert end point Skip step 3 and 4. Press ■ when you want to stop inserting

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### - Customizing Your Camcorder -

# Changing the MENU settings

To change the mode settings in the MENU settings, select the menu items with the SEL/PUSH EXEC dial. The factory settings can be partially changed. First, select the icon, then the menu item and then the mode.

(1) In the standby or VTR mode, press MENU.

(2) Turn the SEL/PUSH EXEC dial to select the desired icon, then press the dial to

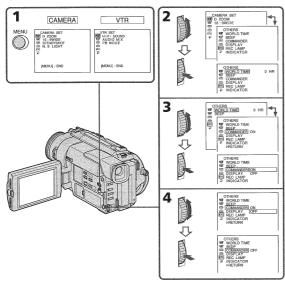
(3) Turn the SEL/PUSH EXEC dial to select the desired item, then press the dial to

(4) Turn the SEL/PUSH EXEC dial to select the desired mode, and press the dial

to set.

(5) If you want to change other items, select 

RETURN and press the dial, then repeat steps from 2 to 4.



To make the MENU display disappear

When you let the subject monitor the shot (Mirror mode), the menu display does not

## Menu items are displayed as the following six icons:

**Changing the MENU settings** 

CAMERA SET
VTR SET
LCD SET (DCR-TRV203/TRV210/TRV310 only) 

LCD/VF SET (DCR-TRV315 only)

िका TAPE SET

SETUP MENU OTHERS 

Depending on your camcorder model
The MENU display may be different from that in this illustratron. Selecting the mode setting of each item

Icon/item	Mode	Meaning	POWER switch
<b>♂</b> D ZOOM	ON	To activate digital zoom. More than 20× to 360× zoom is performed digitally (p. 17)	CAMERA
	● OFF	To prevent the deterioration of the picture quality	•
16:9WIDE	• OFF	_	CAMERA
	ON	To record a 16:9 wide picture (p. 29)	
STEADYSHOT	● ON	To compensate for camera-shake	CAMERA
	OFF	To cancel the SteadyShot function. Natural pictures are produced when shooting a stationary object with a tripod.	-
N.S. LIGHT	● ON	To use the NightShot Light function (p. 20)	CAMERA
	OFF	To cancel the NightShot Light function	-

- The SteadyShot function will not correct excessive camera-shake.
   Attachment of a conversion lens (not supplied) may influence the SteadyShot

nunction.

SteadyShot does not operate in the 16:9WIDE mode. If you set STEADYSHOT to ON in the MENU settings, the 'O' indicator flashes.

Icon/item	Mode	Meaning	POWER switch
HIFI SOUND	• STEREO	To play back a stereo tape or dual sound track tape with main and sub sound	VTR
	1	To play back dual sound track tape with main sound	
	2	To play back a dual sound track tape with sub sound	
AUDIO MIX		To adjust the balance between the stereo 1 and stereo 2	VTR
		ST1 A ST2	
PB MODE	• AUTO	To automatically select the system (Hi8/ standard 8 or Digital8) that was used to record on the tape, and play back the tape	VTR
	HIS/S	To play back a tape that was recorded in the Hi8/standard 8 system when your camcorder does not automatically distinguish the recording system	_
LCD B. L.	<ul> <li>BRT NORMAL</li> </ul>	To set the brightness on the LCD screen normal	VTR
	BRIGHT	To brighten the LCD screen	CAMERA
LCD COLOR		To adjust the color on the LCD screen, turn and press the SEL/PUSH EXEC dial	VTR CAMERA
	•	To lighten To darken	
VF B. L.	BRT NORMAL	To set the brightness in the viewfinder normal	VTR
(DCR-TRV315 only)	BRIGHT	To brighten the viewfinder	CAMERA

Notes on AUDIO MIX

• You can adjust the balance only for tapes recorded in the Digital8 (1) system.

• When playing back a tape recorded in the 16-bit mode, you cannot adjust the balance.

#### Note on PB MODE

Note on PB MIODE
The mode will return to the factory setting when:
you remove the battery pack or power source.
you turn the POWER switch.

#### Notes on LCD B.L. and VF B.L.

- "When you select "BRIGHT", battery life is reduced by about 10 percent during recording.

  "When you use power sources other than the battery pack, "BRIGHT" is automatically selected.

### **Changing the MENU settings**

con/item	Mode	Meaning	POWER switch
audio mode	● 12BIT	To record or play back in the 12-bit mode (two stereo sounds)	VTR* CAMERA
	16BIT	To record or play back in the 16-bit mode (the one stereo sound with high quality)	
⊞ REMAIN	• AUTO	To display the remaining tape bar:  • for about 8 seconds after your camcorder is turned on and calculates the remaining amount of tape  • for about 8 seconds after a cassette is inserted and your camcorder calculates the remaining amount of tape  • for about 8 seconds after ▶ is pressed in VTR mode  • for about 8 seconds after DISPLAY is pressed to display the screen indicators  • for the period of tape rewinding, forwarding or picture search in the VTR mode	VTR CAMERA
	ON	To always display the remaining tape indicator	
DATA CODE	DATE/CAM	To display date, time and recording data during playback	VTR
	DATE	To display date and time during playback	
CLOCK SET		To reset the date or time (p. 59)	CAMERA
AUTO TV ON	● OFF	_	VTR
	ON	To automatically turn on the Sony TV when using the laser link function	CAMERA
TV INPUT	● VIDEO1 VIDEO2 VIDEO3	To switch the video input on a Sony TV when using the laser link function (p. 26)	VTR CAMERA
	OFF		_
LTR SIZE	● NORMAL	To display selected menu items in normal size	VTR
	2×	To display selected menu items at twice the normal size	CAMERA
DEMO MODE	● ON	To make the demonstration appear	CAMERA
	OFF	To cancel the demonstration mode	-

Note on AUDIO MODE
When playing back a tape recorded in the 16-bit mode, you cannot adjust the balance in AUDIO MIX.

- AUDIO MIX.\*

  Notes on DEMO MODE

  You cannot select DEMO MODE when a cassette is inserted in your camcorder.

  DEMO MODE is set to STBY (Standby) at the factory and the demonstration starts about 10 minutes after you have set the POWER switch to CAMERA without a cassette inserted.

  Note that you cannot select STBY of DEMO MODE in the MENU settings.

  \*When NIGHTSHOT is set to ON, the NIGHTSHOT indicator appears in the viewfinder or on the LCD screen and you cannot select DEMO MODE in the MENU settings.

\*To dub a tape to another VCR
You cannot select AUDIO MODE for tapes recorded in the Digital8 D system. You,
however, can select AUDIO MODE when you dub tapes recorded in the Hi8/
standard 8 system to another VCR using the i.LINK cable.

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### **Changing the MENU settings**

n/item	Mode	Meaning	POWER switch
WORLD TIME		To set the clock to the local time. Turn the SEL/PUSH EXEC dial to set a time difference. The clock changes by the time difference you set here. If you set the time difference to 0, the clock returns to the originally set time.	CAMERA
BEEP	MELODY	To output the melody when you start/stop recording or when an unusual condition occurs on your camcorder	VTR CAMERA
	NORMAL	To output the beep instead of the melody	
	OFF	To cancel the melody and beep sound	
COMMANDER	● ON	To activate the Remote Commander supplied with your camcorder	VTR CAMERA
	OFF	To deactivate the Remote Commander to avoid remote control misoperation caused by other VCR's remote control	
DISPLAY	●LCD	To show the display on the LCD screen and viewfinder	VTR CAMERA
	V-OUT/LCD	To show the display on the TV screen, LCD screen and viewfinder	
REC LAMP	● ON	To light up the camera recording lamp at the front of your camcorder	CAMERA
	OFF	To turn the camera recording lamp off so that the subject is not aware of the recording	
INDICATOR	BL OFF	To turn off the backlight on display window	VTR
	BL ON	To turn on the backlight	CAMERA

In more than 5 minutes after removing the power source
The "COMMANDER" and "HiFi SOUND" items are returned to their factory settings.
The other menu items are held in memory even when the battery is removed, as long as the lithium battery is installed.

If you press DISPLAY with "DISPLAY" set to "V-OUT/LCD" in the MENU settings, the picture from a TV or VCR will not appear on the LCD screen even when your camcorder is connected to outputs on the TV or VCR.

- Notes on INDICATOR

   When you select "BL ON", battery life is reduced by about 10 percent during recording.

   When you use power sources other than the battery pack, "BL ON" is automatically selected.

# Resetting the date and time

The clock is set to East Coast Standard Time at the factory.
The date and time are held in memory by the lithium battery. If you replace the lithium battery with the battery pack or other power source connected, you need not reset the date and time. You must reset the date and time when the lithium battery becomes dead with no

- You must reset the date and time when the lithium battery becomes dead with no power source installed.

  First, set the year, then the month, the day, the hour and then the minute.

  (1) While the camcorder is in the standby mode, press MENU to display the MENU settings.

  (2) Turn the SEL/PUSH EXEC dial to select \(\exists \), then press the dial.

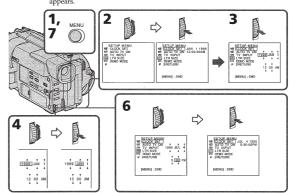
  (3) Turn the SEL/PUSH EXEC dial to select CLOCK SET, then press the dial.

  (4) Turn the SEL/PUSH EXEC dial to adjust the desired year, then press the dial.

  (5) Set the month, day and hour by turning the SEL/PUSH EXEC dial and pressing the dial.

  (6) Set the minute by turning the SEL/PUSH EXEC dial and pressing the dial by the time signal. The clock starts to move.
- the time signal. The clock starts to move.

  (7) Press MENU to make the MENU settings disappear. The time indicator appears.



# The year changes as follows:

1998 ←→ 1999 ← · · · · → 2029 t\_\_\_

### Note on the time indicator

The internal clock of your camcorder operates on a 12-hour cycle

12:00 AM stands for midnight.

12:00 PM stands for noon.

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ing Your Cam

### Digital8 {} system, recording and playback

What is the "Digital8 [ ) system"?
This video system has been developed to enable digital recording to Hi8 video cassette This video system h

#### Usable cassette tapes

Usable cassette tapes
We recommend using His wideo cassettes His. The recording time when you use your
Digitals D system camcorder on His His / standard 8 Is tape is half the recording time
when using the conventional His His / standard 8 Is system camcorder. (120 minutes
of recording time becomes 60 minutes.)

If you use standard 8 Is tape, be sure to play back the tape on this camcorder, mosaic
pattern noise may appear when you play back standard 8 Is tape on other VCRs.

Tapes recorded in the Digital8 D system cannot be played back on Hi8 Mill/standard 8 B (analog) system machine.

#### Playback system

The Digitals  $\overleftarrow{\mathbf{H}}$  system or Hi8  $\overleftarrow{\mathbf{H}}\overleftarrow{\mathbf{i}}$  /standard 8  $\overleftarrow{\mathbf{u}}$  system is automatically detected before the tape is played back.\*

\* During playback of tapes recorded in the Hi8 Hi8/standard 8 🗷 system, digital signals are output as the image signals from the 🔥 DV IN/OUT jack.

Display during automatic detection of system

The Digital8 D system or His HiB/ standard 6 B system is automatically detected, and the playback system is automatically switched to. During switching of system, the screen turns blue, and the following displays appear. A hissing noise also sometimes can be heard.

 $\Theta \to HiB/B$ : During switching from Digital8  $\Theta$  to HiB/HiB/standard 8 B HiB/B  $\to \Theta$ : During switching from HiB/HiB/standard 8 B to Digital8  $\Theta$ 

### When you play back

Playing back a PAL-recorded tape You can play back tapes recorded in the PAL video system on the LCD screen, if the tape is recorded in the Digital8  $\, \Theta$  system.

### Copyright signal

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### When you record

Vou cannot record of tware on your camcorder that contains copyright control signals for copyright protection of software.

"COPY INHIBIT" appears on the LCD screen, in the viewfinder or on the TV screen if you try to record such software.

Your camcorder does not record copyright control signals on the tape when it records.

### Digital8 [ ) system, recording and playback

### When you playback a dual sound track tape

When you use tapes recorded in the Digital8 <code>f</code> system
When you play back a Digital8 <code>f</code> system tape which is dubbed from a dual sound track
tape recorded in the DV system, set "HiFi SOUND" to the desired mode in the MENU
settings (p. 54).

HiFi Sound Mode	Playing back a stereo tape	Playing back a dual sound track tape
STEREO	Stereo	Main sound and sub sound
1	Lch	Main sound
2	Rch	Sub sound

When you use tapes recorded in the Hi8/standard 8 system When you play back a dual sound track tape recorded in an AFM HiFi stereo syste set "HiFi SOUND" to the desired mode in the MENU settings (p. 54).

HiFi Sound Mode	Playing back a stereo tape	Playing back a dual sound track tape
STEREO	Stereo	Main sound and sub sound
1	Monaural	Main sound
2	Unnatural Sound	Sub sound

You cannot record dual sound programs on your camcorder.

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# Changing the lithium battery in your camcorder

When replacing the lithium battery, keep the battery pack or other power source attached. Otherwise, you will need to reset the date, time and other items in the settings hold in memory by the lithium battery.

Insert the battery with the positive (+) side facing out. When the battery becomes weak or dead, the & indicator flashes in the viewfinder for about 5 seconds when you set the POWER switch to CAMERA. In this case, replace the battery with a 5om (R2025 or Duracell D1-2025 lithium battery. Use of any other battery may present a risk of fire or explosion. Discard used batteries according to the manufacturer's instructions.



## WARNING

The battery may explode if mistreated. Do not recharge, disassemble, nor dispose of it in fire.

- Lithium battery

   Keep the lithium battery out of the reach of children.

   Should the battery be swallowed, immediately consult a doctor.

   Wipe the battery with a dry cloth to ensure good contact.

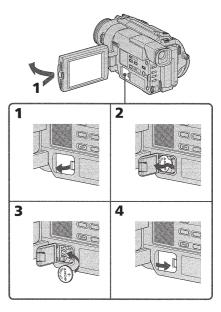
### Lithium battery installed at the factory

This battery may not last 1 year

### Changing the lithium battery in your camcorder

### Changing the lithium battery

- (1) Open the LCD panel and open the lid of the lithium battery compartment.
  (2) Push the lithium battery down once and pull it out from the holder.
  (3) Install a Sony CR2025 or Duracell DL-2025 lithium battery with the positive (+)
- side facing out.
  (4) Close the lid.



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# **Troubleshooting**

If you run into any problem using your camcorder, use the following table to troubleshoot the problem. If the problem persists, disconnect the power source and contact your Sony dealer or local authorized Sony service facility. If "C:III:IIII" appears on the LCD screen or in the viewfinder, the self-diagnosis display function has worked. See page 68.

Symptom	Cause and/or Corrective Actions
START/STOP does not operate.	The POWER switch is set to VTR.
	→ Set it to CAMERA. (p. 14)
	<ul> <li>STANDBY is set to LOCK.</li> </ul>
	→ Turn STANDBY to STANDBY (p. 14)
	<ul> <li>The tape has run out.</li> </ul>
	→ Rewind the tape or insert a new one. (p. 13, 22)
	<ul> <li>The write-protect tab is set to expose the red mark.</li> </ul>
	→ Use a new tape or slide the tab. (p. 13)
	<ul> <li>The tape is stuck to the drum (moisture condensation).</li> </ul>
	→ Remove the cassette and leave your camcorder for at
	least 1 hour to acclimatize. (p. 71)
Recording stops in a few seconds.	<ul> <li>START/STOP MODE is set to 5SEC or <u>↓</u>.</li> </ul>
	→ Set it to <u>H</u> . (p. 18)
The power goes off.	<ul> <li>While being operated in the CAMERA mode, your</li> </ul>
	camcorder has been in the standby mode for more than
	minutes.
	→ Turn STANDBY down once and then up again. (p. 14)
Your camcorder turns on/off when	<ul> <li>Your camcorder is working with the AC power adaptor.</li> </ul>
using the accessory that is attached	→ Use the battery pack.
to the intelligent accessory shoe.	
The image on the viewfinder screen	The viewfinder lens is not adjusted.
is not clear.	→ Adjust the viewfinder lens. (p. 16)
The SteadyShot function does not	<ul> <li>STEADYSHOT is set to OFF in the MENU settings.</li> </ul>
work.	→ Set it to ON. (p. 54)
	<ul> <li>The SteadyShot function does not work when the wide</li> </ul>
	mode is set to ON.
The autofocusing function does not	FOCUS is set to MANUAL.
work.	→ Set it to AUTO. (p. 40)
	<ul> <li>Shooting conditions are not suitable for autofocus.</li> </ul>
	→ Set FOCUS to MANUAL to focus manually. (p. 40)
The fader function does not work.	START/STOP MODE is set to 5SEC or ⊥.
	→ Set it to 💾. (p. 18)
	<ul> <li>The digital effect function is working.</li> </ul>
	→ Cancel it. (p. 34)
The S indicator flashes in the	The video heads may be dirty.
viewfinder.	→ Clean the heads using the Sony V8-25CLD cleaning
	cassette (not supplied). (p. 72).
The picture does not appear in the	The LCD panel is open.
viewfinder.	→ Close the LCD panel. (p. 15)

### Troubleshooting

Symptom	Cause and/or Corrective Actions
A vertical band appears when you shoot a subject such as lights or a candle flame against a dark background.	The contrast between the subject and background is too high. Your camcorder is not a malfunction.
A vertical band appears when you shoot a very bright subject.	Your camcorder is not a malfunction.
Some tiny white spots appear in the viewfinder or on the LCD screen.	<ul> <li>Slow shutter, low lux or NightShot +Slow shutter mode activated. This is not a malfunction.</li> </ul>
An unknown picture is displayed in the viewfinder or on the LCD screen.	<ul> <li>If 10 minutes elapse after you set the POWER switch to CAMERA or DEMO MODE is set to ON in the MENU settings without a cassette inserted, your camcorder automatically starts the demonstration.</li> <li>Insert a cassette and the demonstration stops. You can also cancel DEMO MODE. (p. 54)</li> </ul>
The picture is recorded in incorrect or unnatural colors.	<ul> <li>NIGHTSHOT is set to ON.</li> <li>→ Set it to OFF. (p. 19)</li> </ul>
Picture appears too bright, and the subject does not appear in the viewfinder or on the LCD screen.	<ul> <li>NIGHTSHOT is set to ON in a bright place.</li> <li>Set it to OFF, or use the NightShot function in a dark place. (p. 19)</li> </ul>
In the playback mode	Cause and/or Corrective Actions
The tape does not move when a video control button is pressed.	<ul> <li>The POWER switch is set to CAMERA or OFF.</li> </ul>
viaco controi button is pressed.	<ul> <li>→ Set it to VTR. (p. 22)</li> <li>• The tape has run out.</li> <li>→ Rewind the tape. (p. 22)</li> </ul>
The playback picture is not clear or	
The playback picture is not clear or does not appear.  There are four horizontal lines on the picture or the playback picture is not clear or does not apeear.	The tape has run out.  Rewind the tape. (p. 22)  The television's video channel is not adjusted correctly.
The playback picture is not clear or does not appear. There are four horizontal lines on the picture or the playback picture is not clear or does not apeear. No sound or only a low sound is	The tape has run out.  Rewind the tape. (p. 22)  The television's video channel is not adjusted correctly.  Adjust it. (p. 25)  The video head may be dirty.  Clean the heads using the Sony V8-25CLD cleaning cassette (not supplied). (p. 72)
The playback picture is not clear or does not appear. There are four horizontal lines on the picture or the playback picture is not clear or does not apeear. No sound or only a low sound is heard when playing back a tape.  The date search does not work	• The tape has run out.  → Rewind the tape. (p. 22)  • The television's video channel is not adjusted correctly.  → Adjust it. (p. 25)  • The video head may be dirty.  → Clean the heads using the Sony V8-25CLD cleaning cassette (not supplied). (p. 72)  • The stereo tape is played back with HiFi SOUND set to 2 in the MENU settings.  → Set it to STEREO. (p. 54)  • The violume is turned to minimum.  → Open the LCD panel and press VOLUME +. (p. 22)  • AUDID MIX is set to 572 side in the MENU settings.
The playback picture is not clear or does not appear. There are four horizontal lines on the picture or the playback picture is not	The tape has run out.  → Rewind the tape. (p. 22)  The television's video channel is not adjusted correctly.  → Adjust it. (p. 25)  The video head may be dirty.  → Clean the heads using the Sony V8-25CLD cleaning cassette (not supplied). (p. 72)  The stereo tape is played back with HiFi SOUND set to 2 in the MENU settings.  → Set it to STERED. (p. 54)  The volume is turned to minimum.  → Open the LCD panel and press VOLUME +. (p. 22)  → AUDIO MIX is set to ST2 side in the MENU settings.  → Adjust AUDIO MIX. (p. 54)  The tape has a blank portion in the recorded portion

(Continued on the following page)

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# Troubleshooting

Symptom	Cause and/or Corrective Actions
The power does not turn on.	The battery pack is not installed, or is dead or nearly dead     Install a charged battery pack. (p. 8, 9)     The AC power adaptor is not connected to a wall outlet.     Connect the AC power adaptor to a wall outlet. (p. 12)
The end search function does not work.	The tape was ejected after recording.  You have not recorded on the new cassette yet.
The battery pack is quickly discharged.	The operating temperature is too low. The battery pack is not fully charged. Charge the battery pack again. (p. 9) The battery pack is completely dead, and cannot be recharged. Replace with a new battery pack. (p. 8)
The battery remaining indicator does not indicate the correct time.	You have used the battery pack in an extremely hot or cold environment for a long time. The battery pack is completely dead, and cannot be recharged. Replace with a new battery pack. (p. 8) The battery is dead. Juse a charged battery pack. (p. 8, 9)
The cassette cannot be removed from the holder.	<ul> <li>The power source is disconnected.</li> <li>Connect it firmly. (p. 8, 12)</li> <li>The battery is dead.</li> <li>Use a charged battery pack or the AC power adaptor. (p. 8, 9)</li> </ul>
The ■ and ▲ indicators flash and no functions except for cassette ejection work.	Moisture condensation has occurred.     Remove the cassette and leave your camcorder for at least 1 hour to acclimatize. (p. 71)

# Troubleshooting

Symptom	Cause and/or Corrective Actions
The Remote Commander supplied with your camcorder does not work.	COMMANDER is set to OFF in the MENU settings. Set it to ON. (p. 54) Something is blocking the infrared rays. Remove the obstacle. The batteries are inserted in the battery holder with the +-polarities incorrectly matching the + - marks. Insert the batteries with the correct polarity. (p. 81) The batteries are dead. Insert new ones. (p. 81)
The picture from a TV or VCR does not appear even when your camcorder is connected to outputs on the TV or VCR.	DISPLAY is set to V-OUT/LCD in the MENU settings.     → Set it to LCD. (p. 54)
The melody or beep sounds for 5 seconds.	Noisture condensation has occurred. Remove the cassette and leave your camcorder for at least 1 hour to acclimatize. (p. 71) Some troubles has occurred in your camcorder. Remove the cassette and insert it again, then operate your camcorder.
While charging the battery pack, no indicator appears or the indicator flashes in the display window.	The AC power adaptor is disconnected.     Connect it firmly. (p. 9)     Something is wrong with the battery pack.     Contact your Sony dealer or local authorized Sony

Additional Informati

This function. This function displays the current condition of your camcorder as a 5-digit code (a combination of a letter and figures) in the viewfinder, on the LCD screen or in the display window. If a 5-digit code is displayed, check the following code chart. The last two digits (indicated by  $\square$ C) will differ depending on the state of your camcorder.



C: 
 You can service your camcorder yourself.

•E:00:00 Contact your Sony dealer or local authorized Sony facility.

Five-digit display	Cause and/or Corrective Actions
C:04:□□	<ul> <li>You are using a battery pack that is not an         "InfoLITHIUM" battery pack.</li> <li>→ Use an "InfoLITHIUM" battery pack. (p. 11)</li> </ul>
C:21:□□	<ul> <li>Moisture condensation has occurred.</li> <li>→ Remove the cassette and leave your camcorder for at least 1 hour to acclimatize. (p. 71)</li> </ul>
C:22:□□	<ul> <li>The video heads are dirty.</li> <li>Clean the heads using the Sony V8-25CLD cleaning cassette (not supplied). (p. 72)</li> </ul>
C:31:□□ C:32:□□	<ul> <li>A malfunction other than the above that you can service has occurred.</li> <li>Remove the cassette and insert it again, then operate your camcorder.</li> <li>Disconnect the power cord of the AC power adaptor or remove the battery pack. After reconnecting the power source, operate your camcorder.</li> </ul>
E:61:□□ E:62:□□	<ul> <li>A malfunction that you cannot service has occurred.</li> <li>Contact your Sony dealer or local authorized Sony service facility and inform them of the 5-digit code. (example: E:61:10)</li> </ul>

If you are unable to rectify the problem even if you try corrective actions a few times, contact your Sony dealer or local authorized Sony service facility.

# Warning indicators and messages

If indicators and messages appear in the viewfinder, on the LCD screen or in the display window, check the following:

See the page in parentheses "()" for more information.

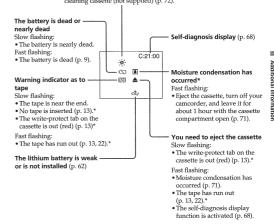
The warning messages do not appear in the mirror mode.

The indicators and messages are displayed in yellow.

#### **Warning indicators**

### The video heads are dirty

Fast flashing:
• You need to clean the heads using the Sony V8-25CLD cleaning cassette (not supplied) (p. 72)



#### Warning messages



CLEANING The video heads are dirty. CASSETTE

You tried to record a picture that has a copyright control signal (p. 60).

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### Using your camcorder abroad

## Using your camcorder abroad

You can use your camcorder in any country or area with the AC power adaptor supplied with your camcorder within 100 V to 240 V AC, 50/60 Hz. When charging the battery pack, use a commercially available AC plug adaptor [a], if necessary, depending on the design of the wall outlet [b].



Your camcorder is an NTSC system based camcorder. If you want to view the playback picture on a TV, it must be an NTSC system based TV with VIDEO/AUDIO input jack. The following shows TV color systems used overseas.

Bahama Islands, Bolivia, Canada, Central America, Chile, Colombia, Ecuador, Jamaica, Japan, Korea, Mexico, Peru, Surinam, Taiwan, the Philippines, the U.S.A., Venezuela,

PAL system Australia, Austria, Belgium, China, Czech Republic, Denmark, Finland, Germany, Great Britain, Holland, Hong Kong, Italy, Kuwait, Malaysia, New Zealand, Norway, Portugal, Singapore, Slovak Republic, Spain, Sweden, Switzerland, Thailand, etc.

### PAL-M system

### PAL-N system

Argentina, Paraguay, Uruguay

### SECAM system

Bulgaria, France, Guyana, Hungary, Iran, Iraq, Monaco, Poland, Russia, Ukraine, etc.

## Simple setting of clock by time difference

You can easily set the clock to the local time by setting a time difference. Select WORLD TIME in the MENU settings. See page 54 for more information.

### **Maintenance information and** precautions

### Moisture condensation

If your camcorder is brought directly from a cold place to a warm place, moisture may condense inside your camcorder, on the surface of the tape, or on the lens. In this condition, the tape may stick to the head drum and be damaged or your camcorder may not operate correctly. If there is moisture inside your camcorder, the beep sounds and the ■ indicator flashes. When the ▲ indicator flashes at the same time, the cassette is inserted in your camcorder. If moisture condenses on the lens, the indicator will not appear.

If moisture condensation occurred

None of the functions except cassette ejection will work. Eject the cassette, turn off your camcorder, and leave it for about 1 hour with the cassette compartment open. Your camcorder can be used again if the III indicator does not appear when the power is turned on again.

### Note on moisture condensation

Moisture may condense when you bring your camcorder from a cold place into a warm place (or vice versa) or when you use your camcorder in a hot place as follows:

• You bring your camcorder from a ski slope into a place warmed up by a heating

- You bring your camcorder from an air-conditioned car or room into a hot place outside

- You use your camcorder after a squall or a shower
   You use your camcorder in a high temperature and humidity place

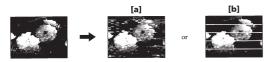
## How to prevent moisture condensation

How to prevent moisture condensation
When you bring your camcorder from a cold place into a warm place, put your
camcorder in a plastic bag and tightly seal it. Remove the bag when the air temperature
inside the plastic bag has reached the surrounding temperature (after about 1 hour).

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<sup>\*</sup> You hear the melody or beep sound

#### Cleaning the video head



If the above problem, **[a]** or **[b]** occurs, clean the video heads with the Sony V8-25CLD cleaning cassette (not supplied). Check the picture and if the above problem persists, cleaning cassette repeat cleaning.

**Cleaning the LCD screen**If fingerprints or dust make the LCD screen dirty, we recommend using a LCD Cleaning Kit (not supplied) to clean the LCD screen.

# Removing dust from inside the viewfinder – DCR-TRV203/TRV210/TRV310

- (1) Themove the screw with a screwdriver (not supplied). Then, while sliding the RELEASE knob, Turn the eyecup in the direction of the arrow and pull it
- (2) Clean the surface with a commercially available blower for a still camera.
- (3) Reattach the eyecup and replace the screw



Do not remove any other screws. You may remove only the screw to remove the

#### Maintenance information and precautions

#### Precautions

#### **Camcorder operation**

- Operate your camcorder on 7.2 V (battery pack) or 8.4 V (AC power adaptor).
   For DC or AC operation, use the accessories recommended in this operating
- instructions.

  If any solid object or liquid get inside the casing, unplug your camcorder and have it checked by a Sony dealer before operating it any further.

  Avoid rough handling or mechanical shock. Be particularly careful of the lens.

  Keep the POWER switch set to OFF when you are not using your camcorder.

  Do not wrap your camcorder with a towel, for example, and operate it. Doing so might cause heat to build up inside.

  Keep your camcorder away from strong magnetic fields or mechanical vibration.

  Do not touch the LCD screen with your fingers or a sharp-pointed object.

  If your camcorder is used in a cold place, a residual image may appear on the LCD screen. This is not a malfunction.

  While using your camcorder, the back of the LCD screen may heat up. This is not a malfunction.

On handling tapes

Do not insert anything into the small holes on the rear of the cassette. These holes are used to sense the type and thickness of the tape and if the recording tab is in or out.

#### Camcorder care

- Remove the tape, and periodically turn on the power, operate the CAMERA and VTR sections and play back a tape for about 3 minutes when your camcorder is not to be seed for a long time.
- used for a long time.
   Clean the lens with a soft brush to remove dust. If there are fingerprints on the lens, remove them with a soft cloth.

  • Clean the camcorder body with
- Clean the camcorder body with a dry soft cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent which may damage the finish
- inish.

  Do not let sand get into your camcorder. When you use your camcorder on a sandy beach or in a dusty place, protect it from the sand or dust. Sand or dust may cause your camcorder to malfunction, and sometimes this malfunction cannot be repaired.

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### Maintenance information and precautions

### AC power adaptor

- AC power adaptor

   Unplug the unit from the wall outlet when you are not using the unit for a long time. To disconnect the power cord, pull it out by the plug. Never pull the power cord itself.

   Do not operate the unit with a damaged cord or if the unit has been dropped or damaged.

   Do not bend the power cord forcibly, or place a heavy object on it. This will damage the cord and may cause fire or electrical shock.

   Prevent metallic objects from coming into contact with the metal parts of the connecting section. If this happens, a short may occur and the unit may be damaged.

   Always keep metal contacts clean.

   Do not disassemble the unit.

   Do not apply mechanical shock or drop the unit.

   While the unit is in use, particularly during charging, keep it away from AM receivers and video equipment. AM receivers and video equipment disturb AM receivers and video operation.

   The unit becomes warm during use. This is not a malfunction.

   Do not place the unit in locations that are:

   Extremely hot or cold

   Dusty or dirry

   Very humid

   Vibrating

### Notes on dry batteries

Notes on dry Datteries
To avoid possible damage from battery leakage or corrosion, observe the following:

• Be sure to insert the batteries with the + - polarities matched to the + - marks.

• Dry batteries are not rechargeable.

• Do not use a combination of new and old batteries.

• Do not use different types of batteries.

• Current flows from batteries when you are not using them for a long time.

• Do not use leaking batteries.

- If batteries are leaking

   Wipe off the liquid in the battery compartment carefully before replacing the batteries.

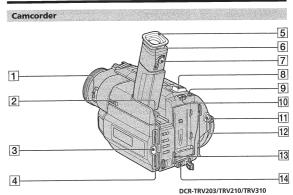
   If you touch the liquid, wash it off with water.

   If the liquid get into your eyes, wash your eyes with a lot of water and then consult a

If any problem occurs, unplug your camcorder and contact your nearest Sony dealer.

### — Ouick Reference —

# Identifying the parts and controls



- 1 POWER switch (p. 14)
- 2 LCD BRIGHT buttons (p. 15)
- **3 OPEN button** (p. 14)
- 4 VOLUME buttons (p. 22)
- **5 Eyecup** (p. 72)
- **6** Eyecup RELEASE knob (DCR-TRV203/TRV210/TRV310 only) (p. 72)
- 7 Viewfinder lens adjustment lever (p. 16)
- 8 Power zoom lever (p. 17)
- 9 PHOTO button (p. 27)
- 10 BATT RELEASE lever (p. 8)
- 11 STANDBY switch (p. 14) 12 START/STOP button (p. 14)
- 13 Hook for shoulder strap (p. 78)
- 14 DC IN jack (p. 9)

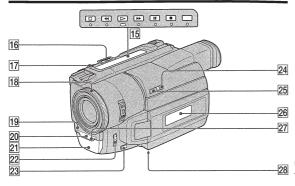


This mark indicates that this product is a genuine accessory for Sony

This mark indicates that this product is a gentalia accessory for soft video products.

When purchasing Sony video products, Sony recommends that you purchase accessories with this "GENUINE VIDEO ACCESSORIES"

### Identifying the parts and controls



15 Video control buttons

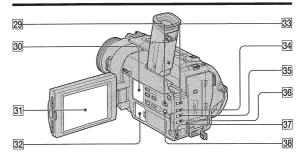
- (p. 22, 24, 44, 51, 53)
   STOP (stop)
   REW (rewind)
   PLAY (playback)
   FF (fastforward)
   PAUSE (pause)
   REC (recording) REC (recording)
- The control buttons light up when you set the POWER switch to VTR.
- 16 EDITSEARCH buttons (p. 21)
- 17 LASER LINK button (p. 26)
- 18 Focus ring (p. 40)
- $\fbox{19} \ \textbf{Camera recording lamp} \ (p.\ 14)$

- 20 Infrared rays emitter (p. 19, 26)
- 21 Microphone
- 22 FOCUS switch (p. 40)
- 23 PUSH AUTO button (p. 40)
- ${\color{red} \underline{\bf 24}} \ \, \textbf{+SLOW SHUTTER button} \ \, (p.\ 20)$
- 25 NIGHTSHOT switch (p. 19)
- 26 Display window (p. 82)
- 27 Remote sensor (p. 81)
- 28 Tripod receptacle (base)
  Make sure that the length of the tripod screw is less than 9/32 inch (6.5 mm). Otherwise, you cannot attach the tripod securely and the screw may damage your camcorder.

What is LASER LINK?

The LASER LINK system sends and receives pictures and sound between video equipment having the & mark by using infrared rays.

### Identifying the parts and controls



- 29 START/STOP MODE switch (p. 18)
- 30 Speaker
- **31** LCD screen (p. 15)
- 32 Lithium battery compartment (p. 63)
- 33 FADER button (p. 31)
- 34 BACK LIGHT button (p. 19)
- 35 PROGRAM AE button (p. 38)
- 36 EXPOSURE button (p. 39)
- 37 SEL/PUSH EXEC dial (p. 33)
- **38** MENU button (p. 29, 54)

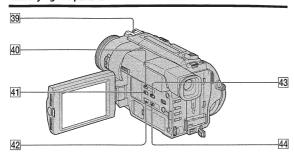
Attaching the shoulder strap
Attach the shoulder strap supplied with your camcorder to the hooks for the shoulder strap.



78

77

### Identifying the parts and controls



- 39 Intelligent accessory shoe
- 42 DIGITAL EFFECT button (p. 35, 43)
- 40 DATA CODE button (p. 23)
- 44 PICTURE EFFECT button (p. 33, 42)
- 43 END SEARCH button (p. 21) 41 DISPLAY button (p. 23)
  - Intelligent Accessory Shoe

- Notes on the intelligent accessory shoe

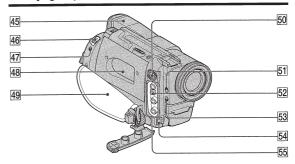
   The intelligent accessory shoe supplies power to optional accessories such as a video light or microphone.

   The intelligent accessory shoe is linked to STANIDBY, allowing you to turn the power supplied by the shoe on and off. Refer to the operating instructions of the accessory for further information.

   The intelligent accessory shoe has a safety device for fixing the installed accessory securely. To connect an accessory, press down and push it to the end, and then tighten the screw.

   To remove an accessory, loosen the screw, and then press down and pull out the accessory.

### Identifying the parts and controls



- 45 Viewfinder (p. 16)
- 46 EJECT switch (p. 13)

[46] EJECT switch (p. 1.3)

[7] LANC \(\perp \) Control jack

LANC stands for Local Application

Control Bus System. The \(\psi \) control jack
is used for controlling the tape transport

of video equipment and other

peripherals connected to the video

equipment. This jack has the same

function as the jack indicated as

CONTROL L or REMOTE.

- 48 Cassette compartment (p. 13)
- 49 Grip strap
- 50 S VIDEO jack (p. 25, 28, 49, 51)

51 (headphones) jack
When you use headphones, the speaker
on your camcorder is silent.

- 52 RFU DC OUT (RFU adaptor DC output) jack (p. 25)
- 53 MIC jack (PLUG IN POWER)

Connect an external microphone (not supplied). This jack also accepts a "plug-in-power" microphone. If you connect a 2-pin microphone, supply power from DC OUT jack.

ibu IN/OUT jack (p. 50)

This "i.LINK" mark is a trademark of Sony Corporation and indicates that this product is in agreement with IEEE 1394-1995 specifications and their revisions.

The BDV IN/OUT jack is i.LINK

55 VIDEO/AUDIO jacks (p. 25, 28, 49, 51)

Fastening the grip strap



Fasten the grip strap firmly

### Identifying the parts and controls

# The buttons that have the same name on the Remote Commander as on your car function identically to the buttons on your camcorder. $\frac{1}{2} \int_{-\infty}^{\infty} \frac{1}{2} \int_{-\infty$ 1 -7 2 3 4 5 9 10 6

- 1 PHOTO button (p. 27)
- 2 DISPLAY button (p. 23)
- 3 SEARCH MODE button (p. 45, 47, 48)
- 4 I◀◀/▶▶I buttons (p. 45, 47, 48)
- 5 Tape transport buttons (p. 24)
- 6 DATA CODE button (p. 23)
- 7 ZERO SET MEMORY button (p. 41, 44, 53)
- Transmitter
   Point toward the remote sensor to control the camcorder after turning on the camcorder.
- 9 START/STOP button (p. 14)
- 10 Power zoom button (p. 17)

**To prepare the Remote Commander** Insert 2 size AA (R6) batteries by matching the + and – polarities on the batteries to the + – marks inside the battery compartment.

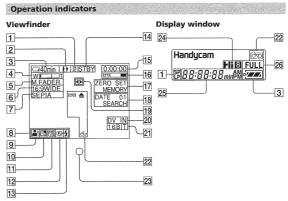


Notes on the Remote Commander

• Point the remote sensor away from strong light sources such as direct sunlight or overhead lighting. Otherwise, the Remote Commander may not function properly.

• Your camcorder works in the commander mode VTR 2. Commander modes 1, 2 and 3 are used to distinguish your camcorder from other Sony VCRs to avoid remote control misoperation. If you use another Sony VCR in the Commander mode VTR 2, we recommend changing the commander mode or covering the sensor of the VCR with black paper.

Identifying the parts and controls



- 1 Tape speed mode indicator This indicator appears while playing back in the Hi8/standard 8 system. /Mirror mode indicator (p. 15)
- 2 Format indicator (p. 60) B, HiB or B indicator appears
- 3 Remaining battery time indicator (p. 18)
- 4 Exposure indicator (p. 39)/Zoom indicator (p. 17)
- 5 Fader indicator (p. 31)/Digital effect indicator (p. 35, 43)
- 6 Wide mode indicator (p. 29) 7 Picture effect indicator (p. 33)
- B LCD bright indicator (p. 15)/Volume indicator (p. 22)/Data code indicator (p. 23)
  PROGRAM AE indicator (p. 38)
- 10 Backlight indicator (p. 19)
- $\fbox{11} \ \ \textbf{SteadyShot off indicator} \ (p.\ 55)$
- 12 Manual focusing indicator (p. 40)
- Video flash ready indicator
   This indicator appears when you video flash light (not supplied).

- Tip counter (p. 18, 41, 44, 53)/Time code indicator (p. 18)/Self-diagnosis display function indicator (p. 68)/SSEC mode indicator (p. 18)/Photo recording indicator (p. 27)
- 16 Remaining tape indicator (p. 18)
  17 ZERO SET MEMORY indicator
- (p. 41, 44, 53)
- 18 Search mode indicator (p. 21, 45, 47, 48)
- 19 NIGHTSHOT indicator (p. 19, 20)
- 20 DV IN indicator (p. 50)
- 21 Audio mode indicator (p. 57)
- 22 Warning indicators (p. 69)
- Recording lamp (DCR-TRV203/ TRV210/TRV310 only) (p. 14)
- 24 Hi8 indicator This indicator appears while playing back in the Hi8 system.
- 25 Tape counter (p. 41, 44, 53)/Time code indicator (p. 18)/Self-diagnosis display function indicator (p. 68)/Remaining battery time indicator (p. 9)
- 26 FULL charge indicator (p. 9)

# **Quick Function Guide**

# • In a dark place • In a dark place • In insufficient light • In dark environments such as sunset, fireworks, Sunset & moon mode (p. 37)

- In a dark place
  In insufficient light
  In dark environments such as sunset, firework
  or general night views
  Shooting backlit subjects
  In spotlight, such as at the theater or a formal
  event

- - BACK LIGHT (p. 19) Spotlight mode (p. 37)
- In strong light or reflected light, such as at a beach in midsummer or on a ski slope.
- Beach & ski mode (p. 37)

### Functions to give images more impact (in the recording mode)

- Smooth transition between scenes
   Taking a still picture
   Digital processing of images
- Processing a scene using digital effects
   Creating a soft background for subjects

FADER (p. 31) PHOTO (p. 27) PICTURE EFFECT (p. 33) DIGITAL EFFECT (p. 35) Soft portrait mode (p. 37)

# Functions to give a natural appearance to your recordings (in the recording mode) • Preventing deterioration of picture quality in digital zoom • Eccusion manually • Manual focus (n. 40)

- in digital zoom

   Focusing manually
   Shooting distant subjects
   Recording fast-moving subjects Manual focus (p. 40) Landscape mode (p. 37) Sports lesson mode (p. 37)

### Functions to use in editing (in the recording mode)

· Watching the picture on a wide-Wide mode (p. 29)

- Watching the picture on a wave section.

  Functions to use after recording (in the playback mode)

   Digital processing of recorded images

   Processing a recorded scene using digital effects

   Prisolaving the date/time or recording data

  DiGITAL EFFECT (p. 43)

  Data code (p. 23)

- Functions to use after recording (in 1 Digital processing of recorded images

  Processing a recorded scene using digital effects

  Displaying the date/time or recording data when you recorded

  Quickly locating a desired scene

  Searching for scenes recorded in the photo mode

  Searning scenes recorded in the photo mode

  Playing back on monaural sound or sub sound

  Playing back the picture on a TV without connecting a cord

  - Zero set memory (p. 41, 44, 53) Photo search (p. 47) Photo scan (p. 48) HiFi SOUND [MENU] (p. 54) LASER LINK (p. 26)

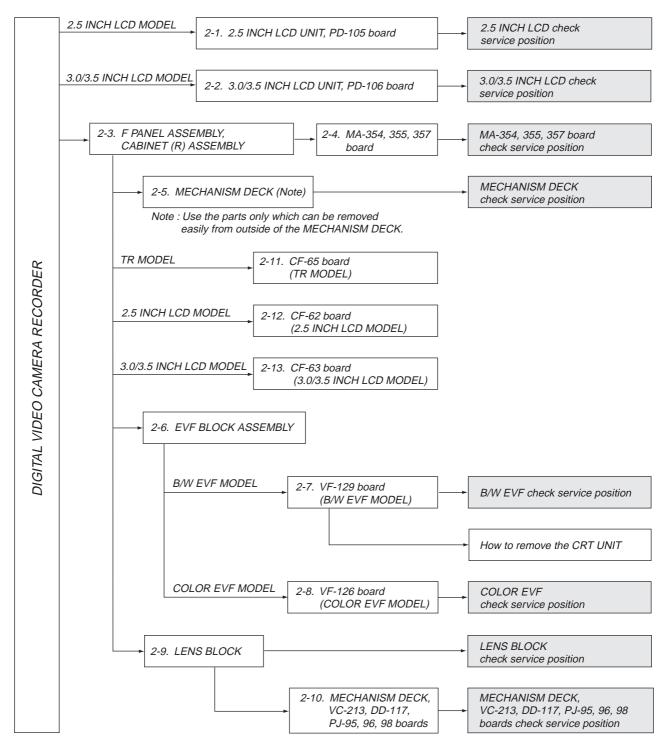
81

82

# DCR-TRV103/TRV110/TRV110E/TRV110P/TRV203/TRV210/ TRV210E/TRV310/TRV310E/TRV310P/TRV315 DCR-TR7000/TR7000E/TR7100E

# SECTION 2 DISASSEMBLY

The following flow chart shows the disassembly procedure.



TR MODEL : DCR-TR7000/TR7000E/TR7100E
2.5 INCH LCD MODEL : DCR-TRV103/TRV110/TRV110E/TRV110P
3.0 INCH LCD MODEL : DCR-TRV203/TRV210/TRV210E/TRV315
3.5 INCH LCD MODEL : DCR-TRV310/TRV310E/TRV310P

B/W EVF MODEL : DCR-TRV103/TRV110/TRV110E/TRV110P

: DCR-TRV203/TRV210/TRV210E : DCR-TRV310/TRV310E/TRV310P

COLOR EVF MODEL : DCR-TR7000/TR7000E/TR7100E

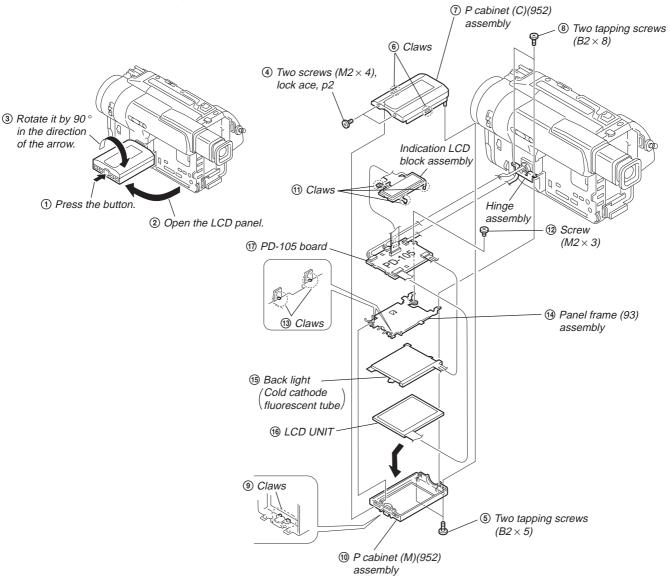
: DCR-TRV315

NTSC MODEL : DCR-TRV103/TRV110/TRV110P/TRV203/TRV210/TRV310/TRV310P/TRV315/TR7000

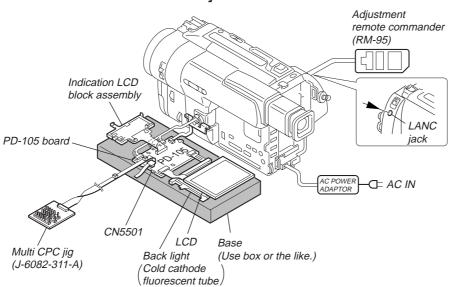
PAL MODEL : DCR-TRV110E/TRV210E/TRV310E/TR7000E/TR7100E

**NOTE:** Follow the disassembly procedure in the numerical order given.

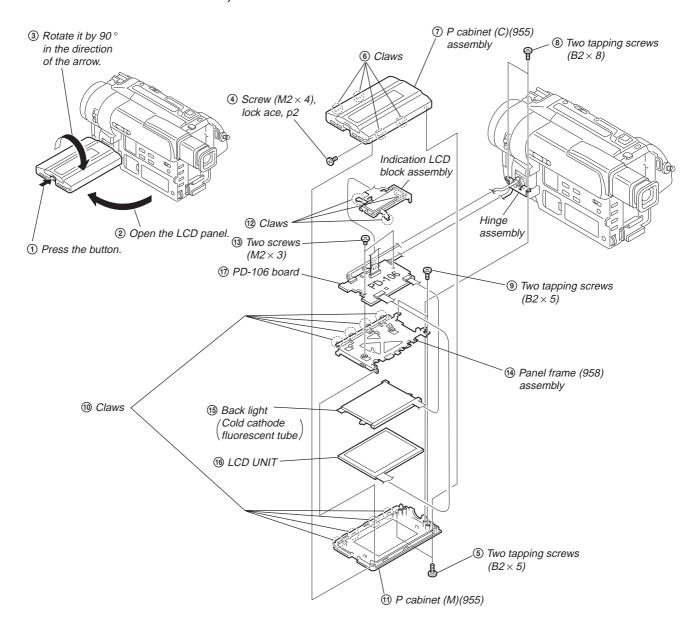
# 2-1. 2.5 INCH LCD UNIT, PD-105 BOARD



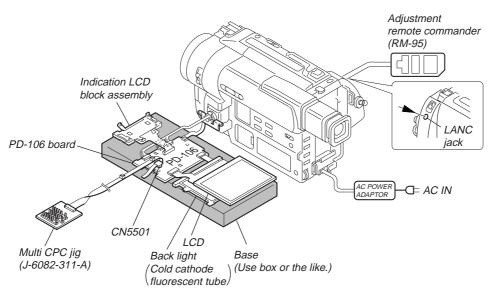
# [2.5 INCH LCD CHECK SERVICE POSITION]

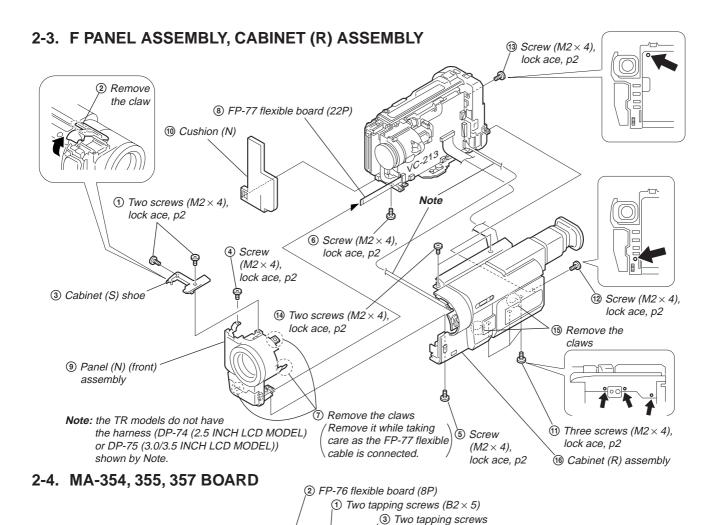


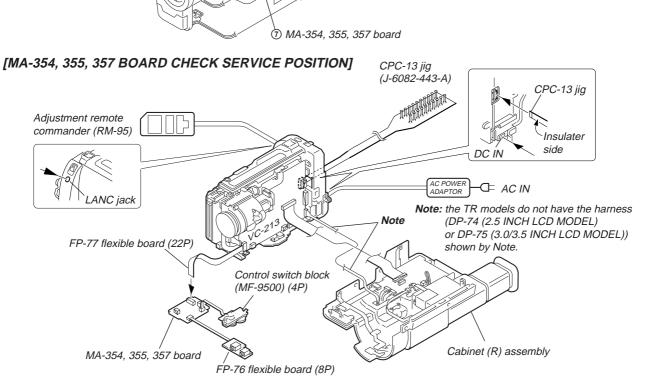
# 2-2. 3.0/3.5 INCH LCD UNIT, PD-106 BOARD



# [3.0/3.5 INCH LCD CHECK SERVICE POSITION]

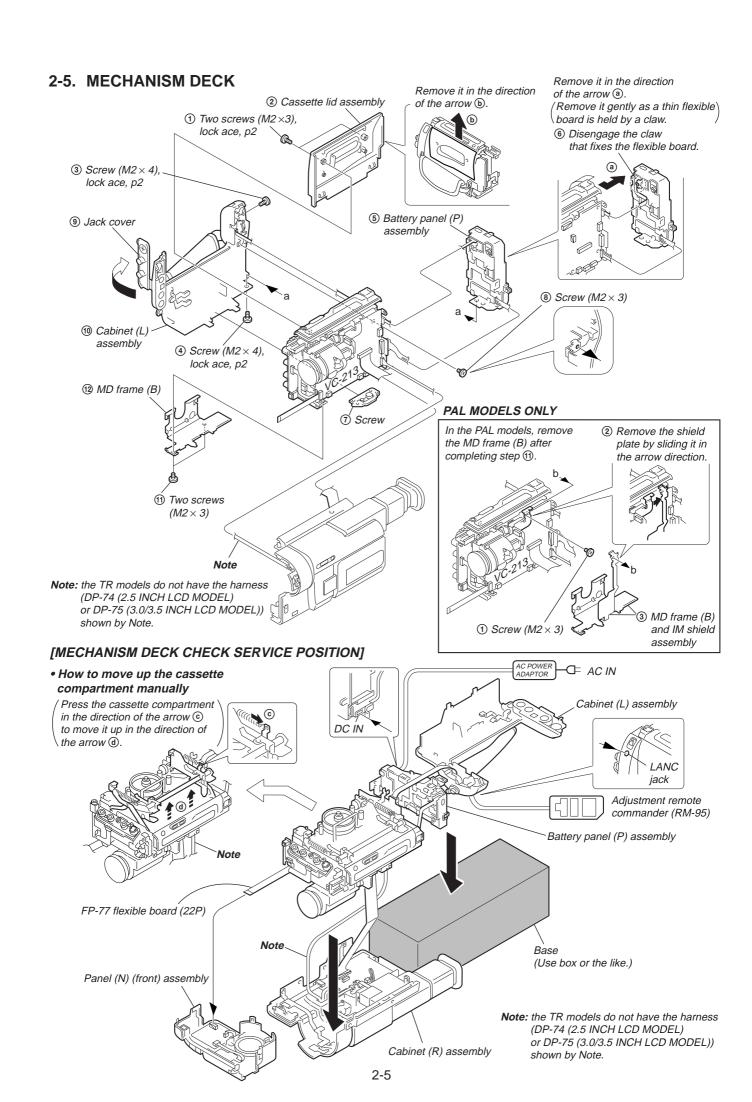






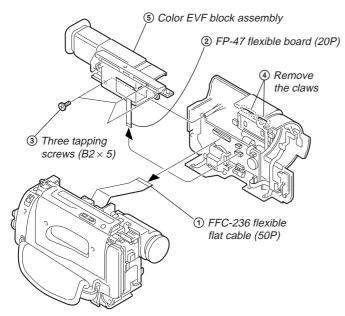
 $(B2 \times 5)$ 

Tapping screw
 (B2 × 5)
 Control switch block
 (MF-9500) (4P)
 Two harnesses
 (from microphone)

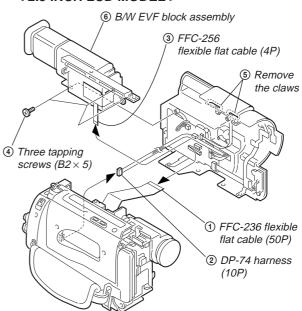


#### 2-6. EVF BLOCK ASSEMBLY

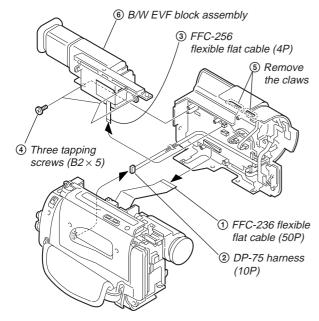
#### < TR MODEL >



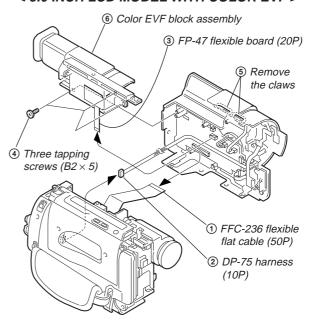
#### < 2.5 INCH LCD MODEL >



#### < 3.0/3.5 INCH LCD MODEL WITH B/W EVF >

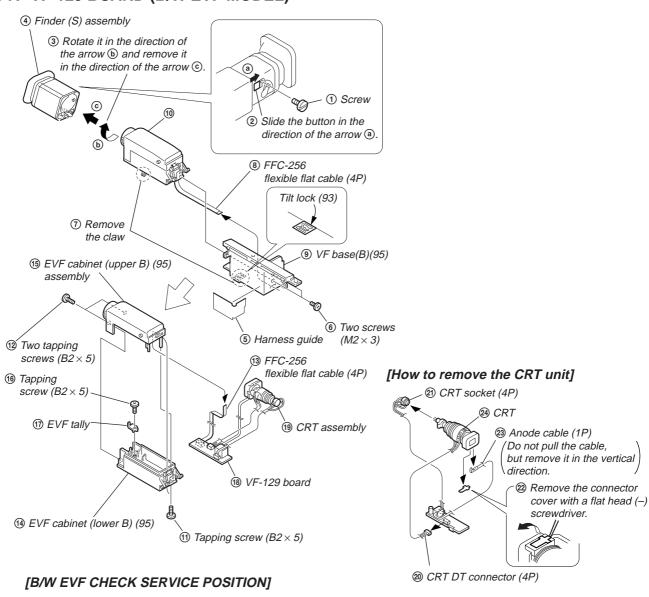


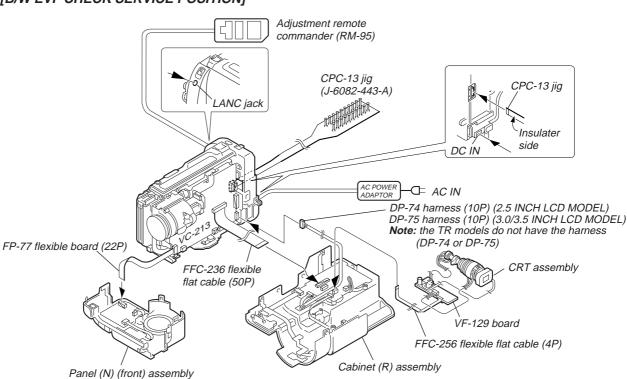
#### < 3.0 INCH LCD MODEL WITH COLOR EVF >



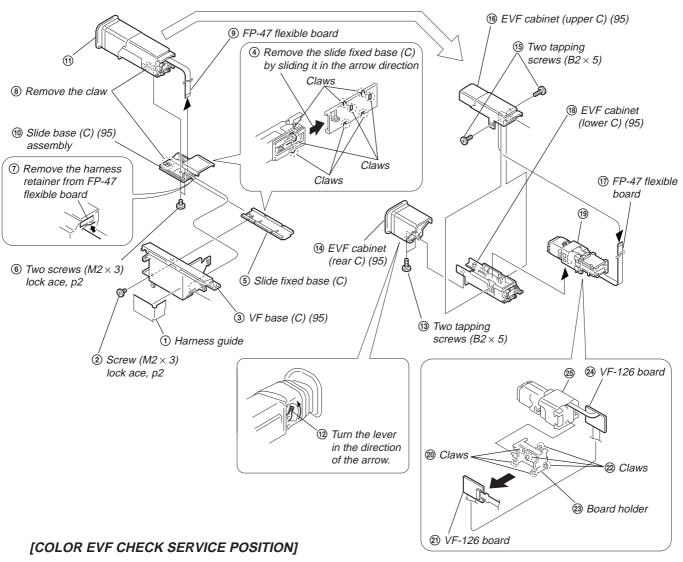
Refer to page 2-7 for disassembly of VF-129 board (B/W EVF). Refer to page 2-8 for disassembly of VF-126 board (Color EVF).

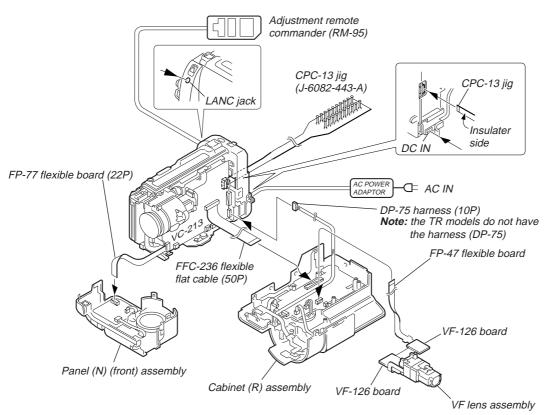
#### 2-7. VF-129 BOARD (B/W EVF MODEL)



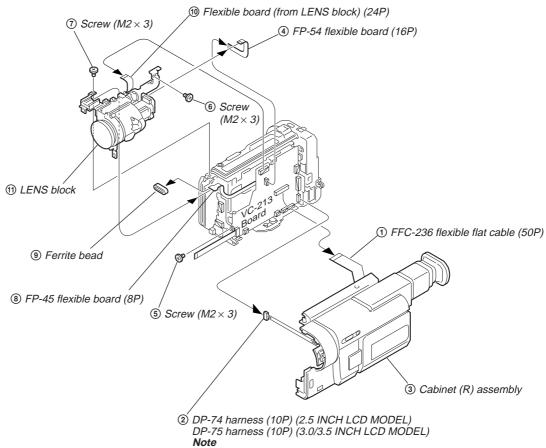


#### 2-8. VF-126 BOARD (COLOR EVF MODEL)



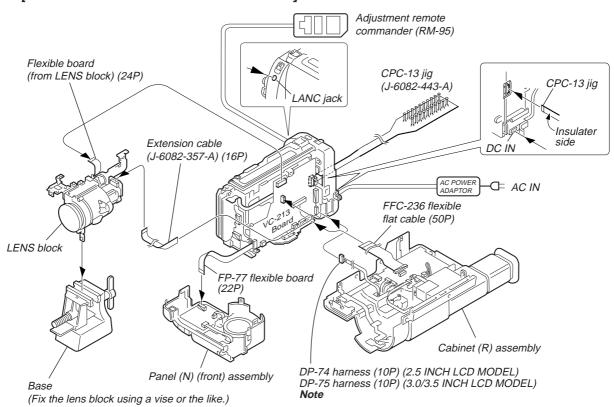


#### 2-9. LENS BLOCK



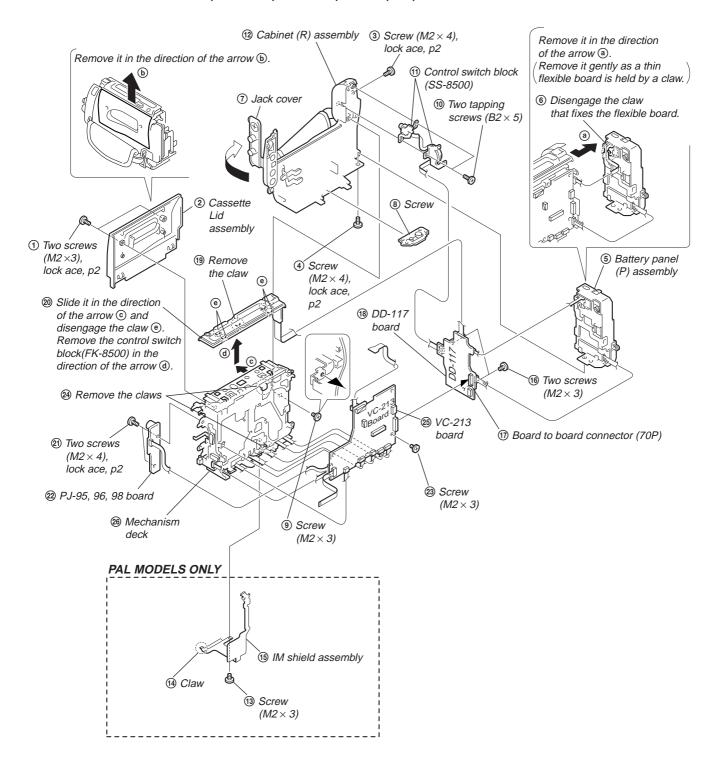
#### [LENS BLOCK CHECK SERVICE POSITION]

Note: the TR models do not have the harness (DP-74 or DP-75) shown by Note.

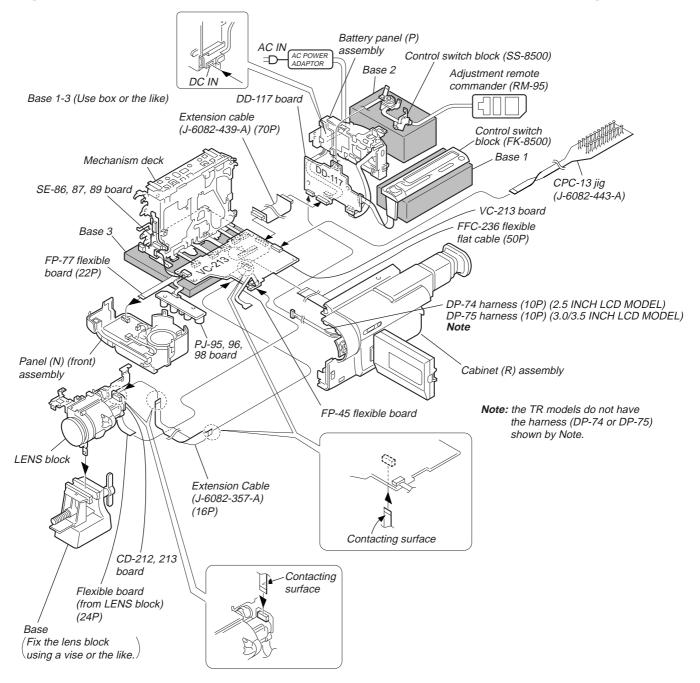


Note: the TR models do not have the harness (DP-74 or DP-75) shown by Note.

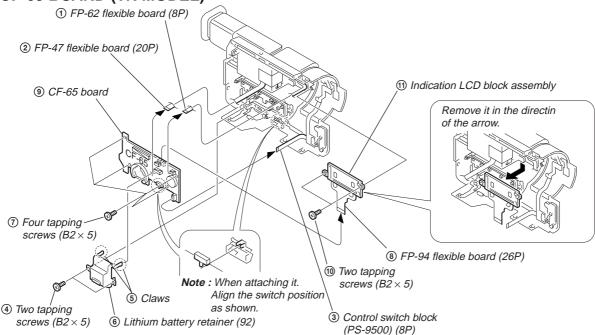
#### 2-10.MECHANISM DECK, VC-213, DD-117, PJ-95, 96, 98 BOARDS



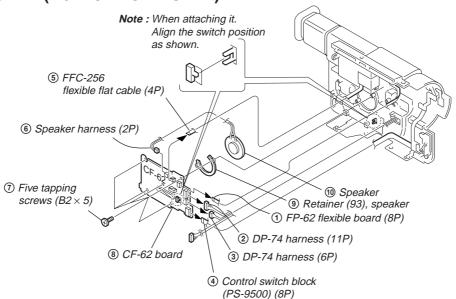
#### [MECHANISM DECK, VC-213, DD-117, PJ-95, 96, 98 BOARDS CHECK SERVICE POSITION]



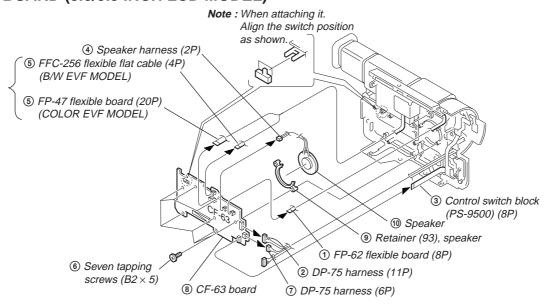
#### 2-11.CF-65 BOARD (TR MODEL)



#### **2-12.CF-62 BOARD (2.5 INCH LCD MODEL)**

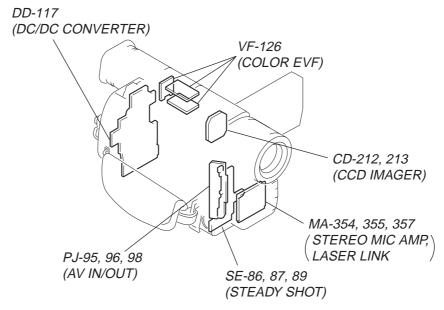


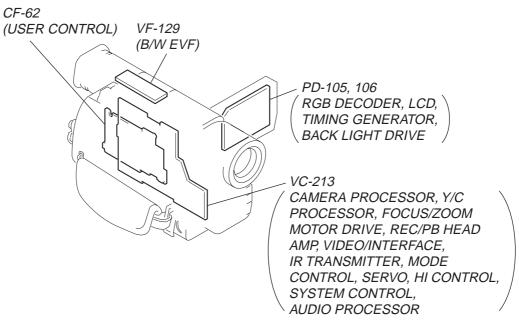
#### 2-13.CF-63 BOARD (3.0/3.5 INCH LCD MODEL)

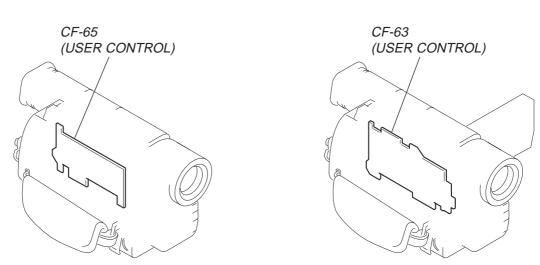


#### 2-14. CIRCUIT BOARDS LOCATION

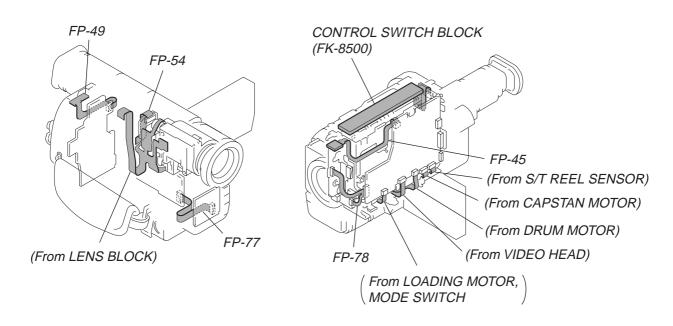
**NOTE:** For the difference of the printed wiring boards due to needs and destinations, refer to "Table for differences of function" on page 4.

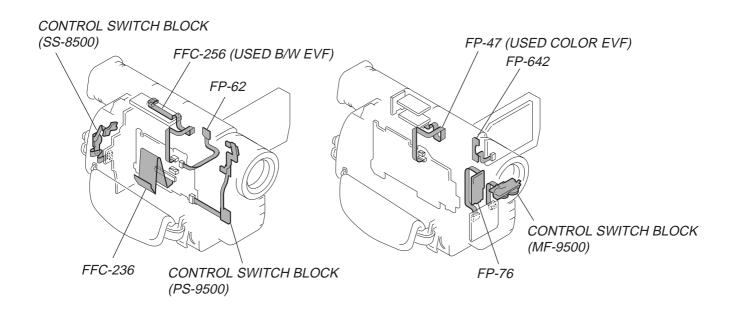






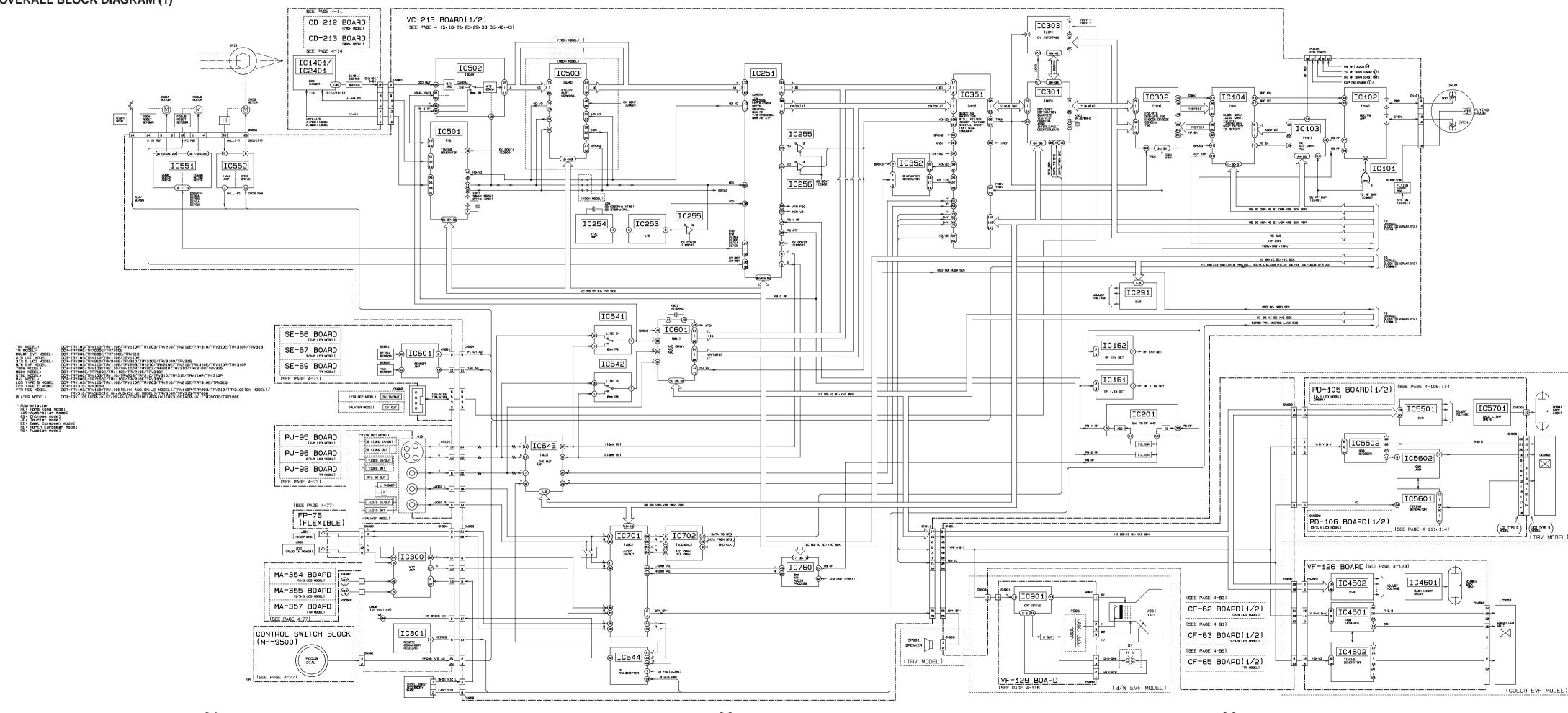
#### 2-15. FLEXIBLE BOARDS LOCATION



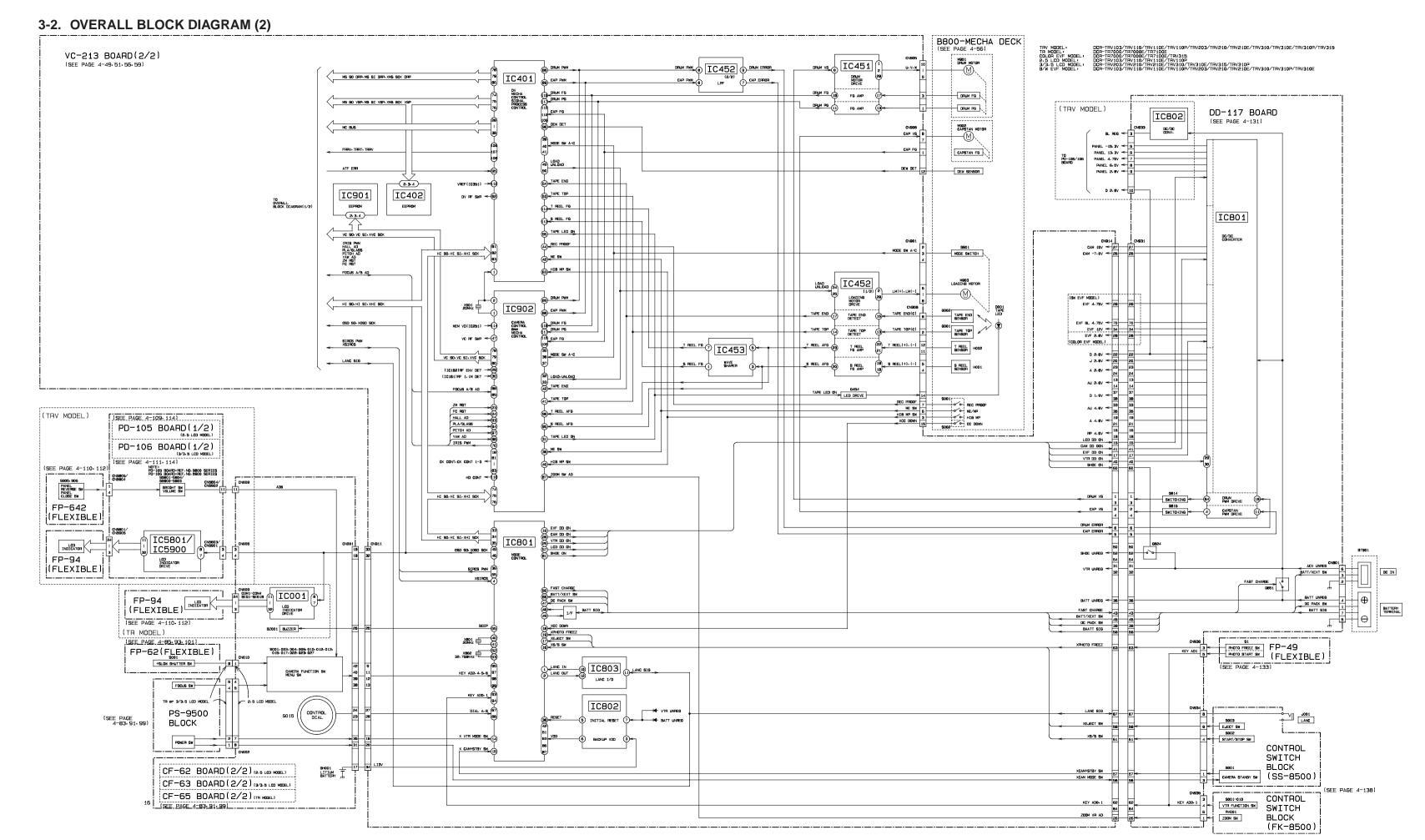


### SECTION 3 BLOCK DIAGRAMS

#### 3-1. OVERALL BLOCK DIAGRAM (1)

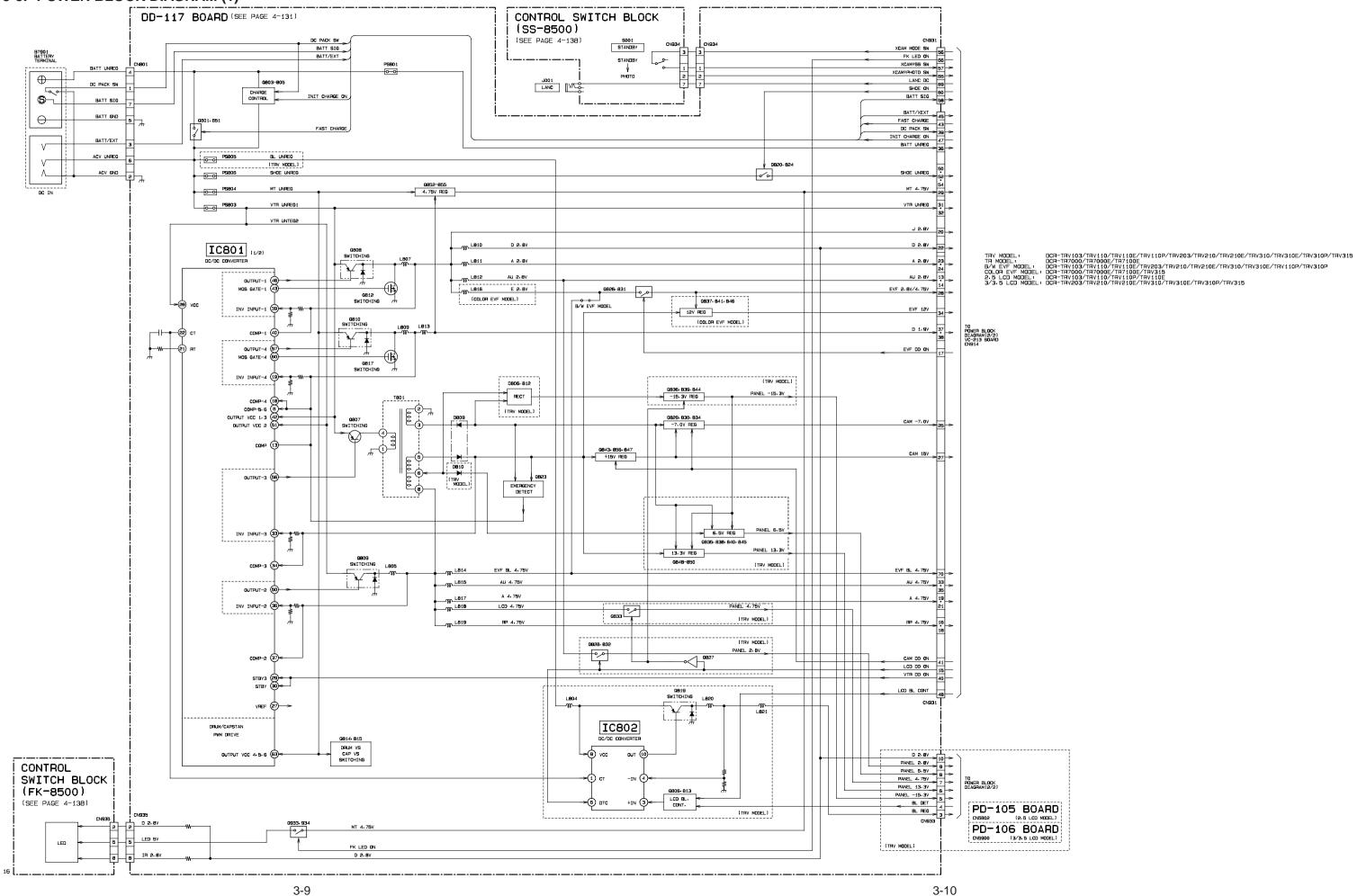


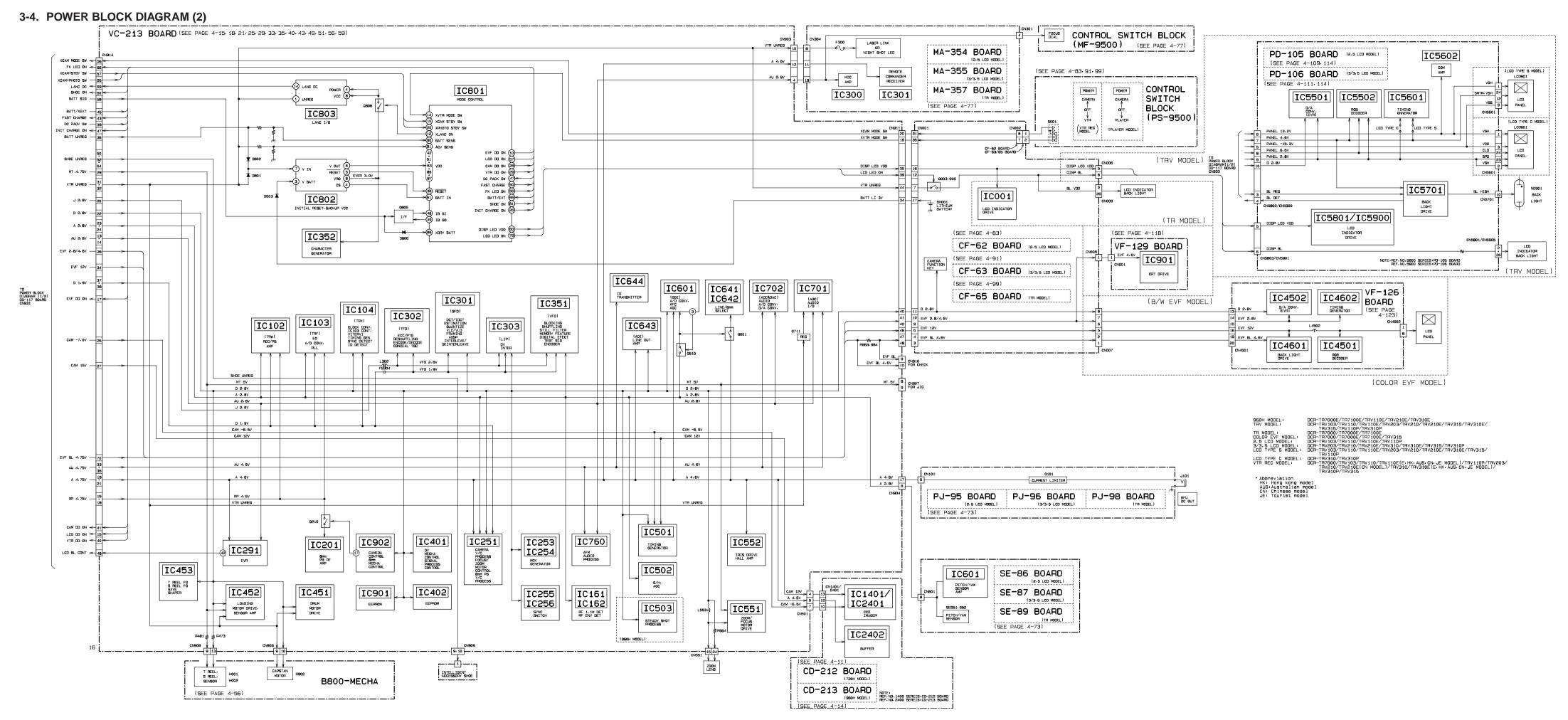
3-2



#### DCR-TRV103/TRV110/TRV110E/TRV110P/TRV203/TRV210/ TRV210E/TRV310/TRV310E/TRV310P/TRV315 DCR-TR7000/TR7000E/TR7100E

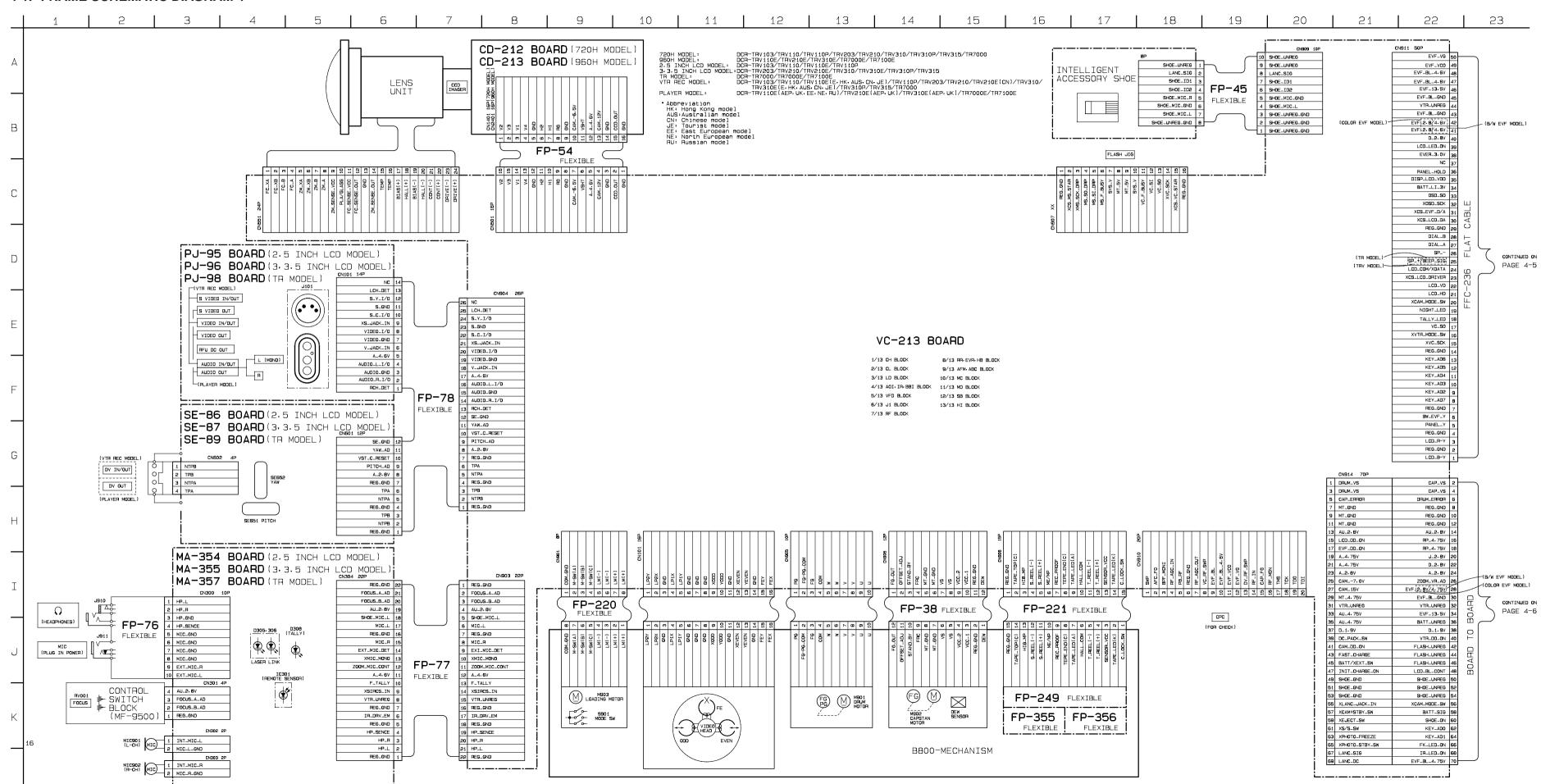
### 3-3. POWER BLOCK DIAGRAM (1)

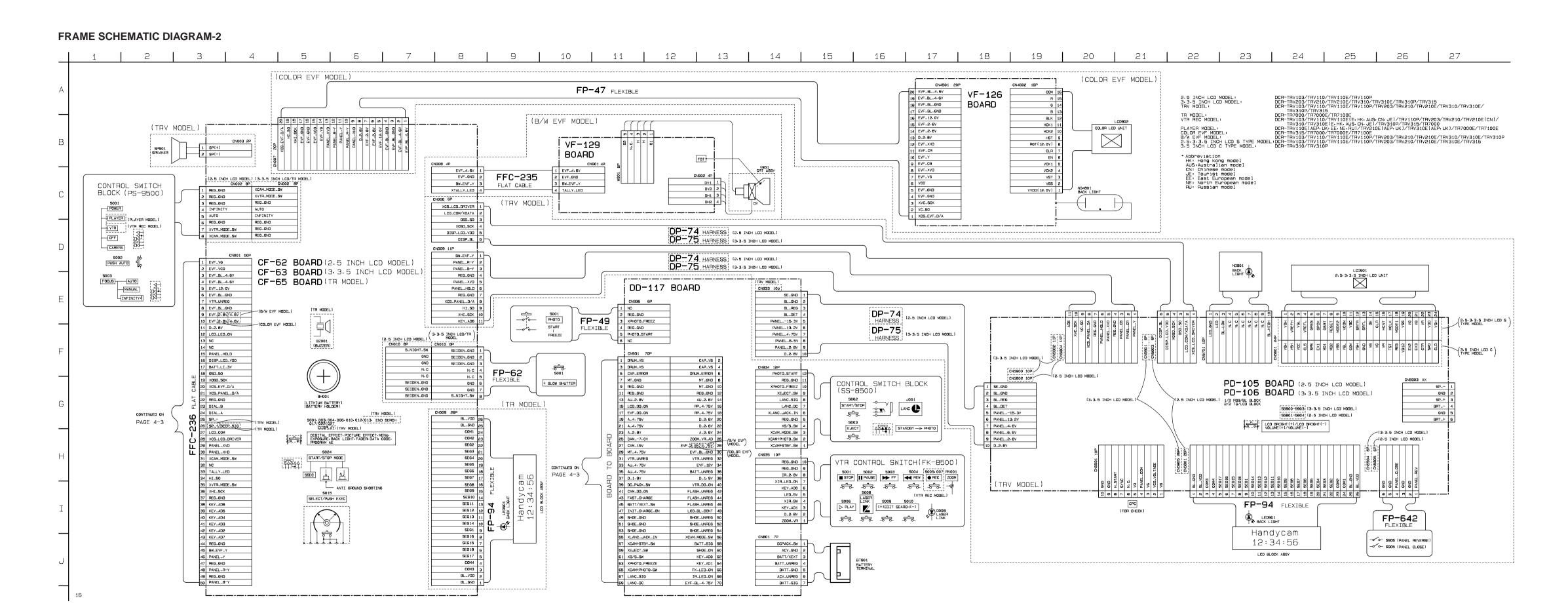




# SECTION 4 PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

#### 4-1. FRAME SCHEMATIC DIAGRAM-1





4-7 4-8

#### 4-2. PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS THIS NOTE IS COMMON FOR WIRING BOARDS AND SCHEMATIC DIAGRAMS (In addition to this, the necessary note is printed in each block) (For printed wiring boards) (Measuring conditions voltage and waveform) : Pattern from the side which enables seeing. (The other layers' patterns are not indicated.) • Through hole is omitted. Circled numbers refer to waveforms. • There are few cases that the part printed on diagram isn't mounted in this model. · Chip parts. used.) Diode Transistor 1 Connection Fx Fx Fx Pattern hos B E 123 (For schematic diagrams) • All capacitors are in μF unless otherwise noted. pF : μμF. 50V or less are not indicated except for electrolytics and • Chip resistors are 1/10W unless otherwise noted. $k\Omega = 1000\Omega$ , $M\Omega = 1000k\Omega$ . Caution when replacing chip parts. New parts must be attached after removal of chip. Be careful not to heat the minus side of tantalum capacitor, Because it is damaged by the heat. Some chip part will be indicated as follows. Example 22U 10UH 2520 Kinds of capacitor Temperature characteristics External dimensions (mm) Constants of resistors, capacitors, ICs and etc with XX indicate that they are not used. In such cases, the unused circuits may be indicated. Parts with ★ differ according to the model/destination. Refer to the mount table for each function. • All variable and adjustable resistors have characteristic curve B, unless otherwise noted. A B Signal name $XEDIT \rightarrow \overline{EDIT}$ PB/XREC $\rightarrow$ PB/ $\overline{REC}$ • - : non flammable resistor • fusible resistor • panel designation • ==== : B+ Line

Les composants identifiés par

une marque  $\triangle$  sont critiques

Ne les remplacer que par une

pièce portant le numéro spécifié.

pour la sécurité.

--- : B- Line

: adjustment for repair. Circled numbers refer to waveforms.

The components identified by mark A or dotted line with mark

Replace only with part number

 ⚠ are critical for safety.

: IN/OUT direction of (+,-) B LINE.

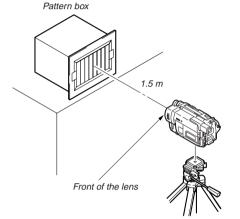
• 🖈

specified.

 Voltages and waveforms are measured between the measurement points and ground when camera shoots color bar chart of pattern box. They are reference values and reference wave-

(VOM of DC 10 M $\Omega$  input impedance is used.).

Voltage values change depending upon input impedance of VOM



2. Adjust the distance so that the output waveform of Fig. a and the Fig. b can be obtain.

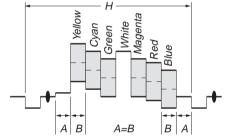
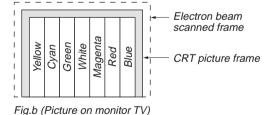


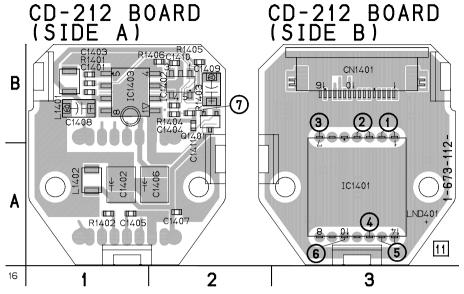
Fig. a (Video output terminal output waveform)

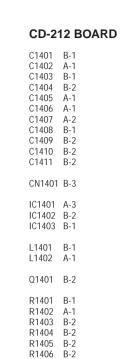


When indicating parts by reference number, pleas include the board name.

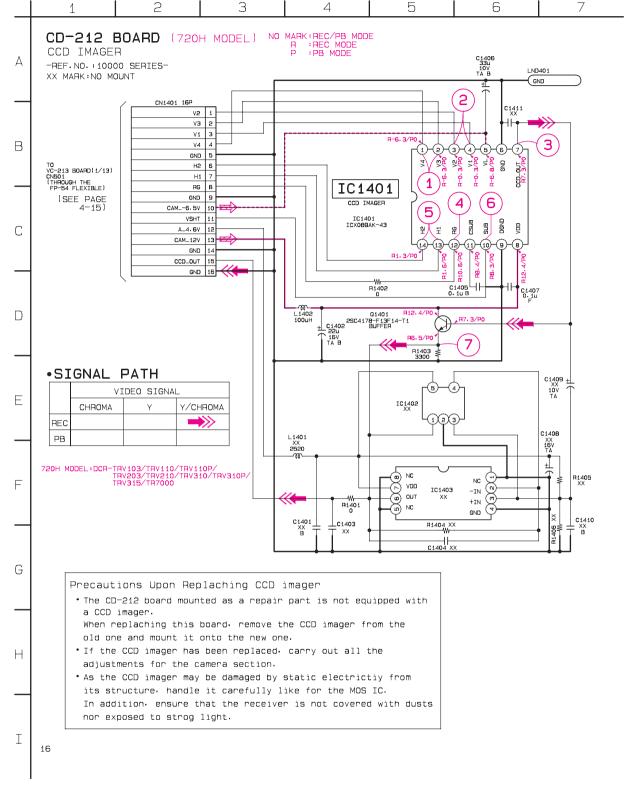
#### CD-212 (CCD IMAGER) PRINTED WIRING BOARD (720H MODEL)

— Ref. No. CD-212 Board; 10,000 Series —





R1408 B-2



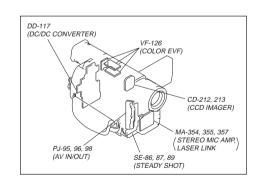
4-11

### For printed wiring boards

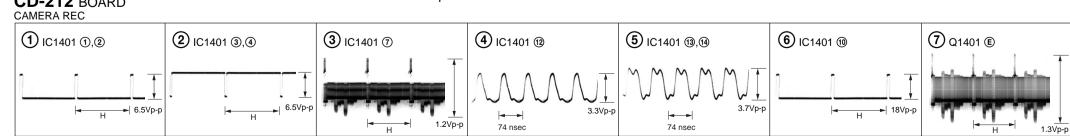
- This board is eight-layer print board. However, the patterns of layers two to seven have not been included in the diagram.
- Chip parts

Transistor

There are few cases that the part printed on this diagram isn't mounted in this model



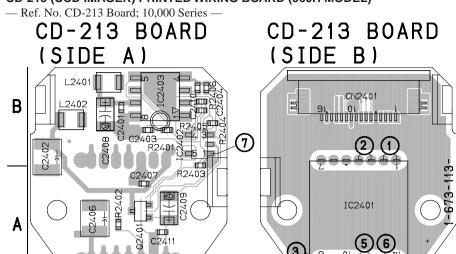
# CD-212 BOARD



**CCD IMAGER** CD-212

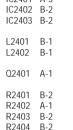
#### DCR-TRV103/TRV110/TRV110E/TRV110P/TRV203/TRV210/ TRV210E/TRV310/TRV310E/TRV310P/TRV315 DCR-TR7000/TR7000E/TR7100E

#### CD-213 (CCD IMAGER) PRINTED WIRING BOARD (960H MODEL)



(4)

#### CD-213 BOARD C2401 B-1 C2402 A-1 C2403 B-1 C2404 B-2 C2406 A-1 C2407 A-1 C2408 B-1 C2409 A-2 C2410 B-2 C2411 A-2 CN2401 B-3 IC2401 A-3 IC2402 B-2



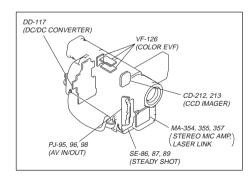
## R2403 B-2 R2404 B-2 R2405 B-2 R2406 B-2

#### For printed wiring boards

- This board is eight-layer print board. However, the patterns of layers two to seven have not been included in the diagram.
- Chip parts



There are few cases that the part printed on this diagram isn't mounted in this model.



CD-213 BOARD (960H MODEL) NO MARK: REC/PB MODE R : REC MODE P : PB MODE

VSHT :

CAM\_12V 13

Y/CHROMA

**>>>** 

CCD\_OUT 15

-REF.NO.:10000 SERIES-

XX MARK: NO MOUNT

TO VC-213 BOARD(1/13) CN501 (THROUGH THE FP-54 FLEXIBLE)

(SEE PAGE 4-15)

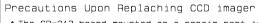
•SIGNAL PATH

CHROMA

VIDEO SIGNAL

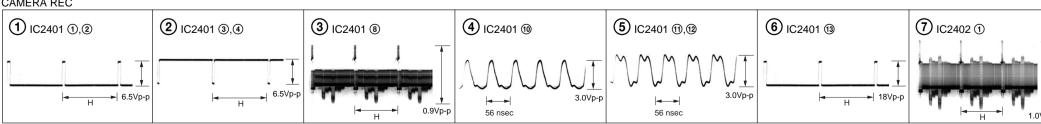
960H MODEL:DCR-TRV110E/TRV210E/TRV310E/ TR7000F/TR7100F

Υ



- The CD-213 board mounted as a repair part is not equipped with a CCD imager. When replaching this board, remove the CCD imager from the
- old one and mount it onto the new one. • If the CCD imager has been replaced, carry out all the adjustments for the camera section.
- As the CCD imager may be damaged by static electricity from its structure, handle it carefully like for the MOS IC. In addition, ensure that the receiver is not covered with dusts nor exposed to strog light.

#### CD-213 BOARD CAMERA REC



**CCD IMAGER** CD-213

4-14

2 | 3 | 4 | 5 | 6 |

IC2401

CCD IMAGER

(5)

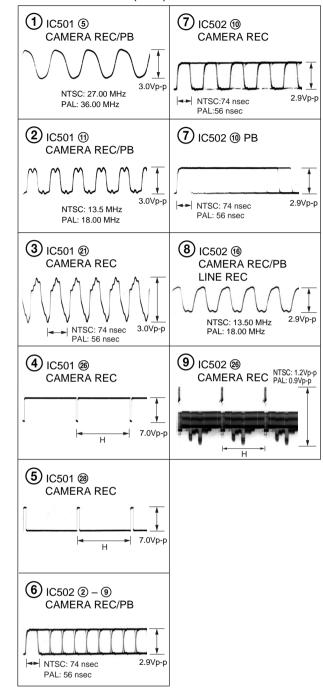
SUB SUB H1... H2... H1... H1... H10... H10..

02401 XX

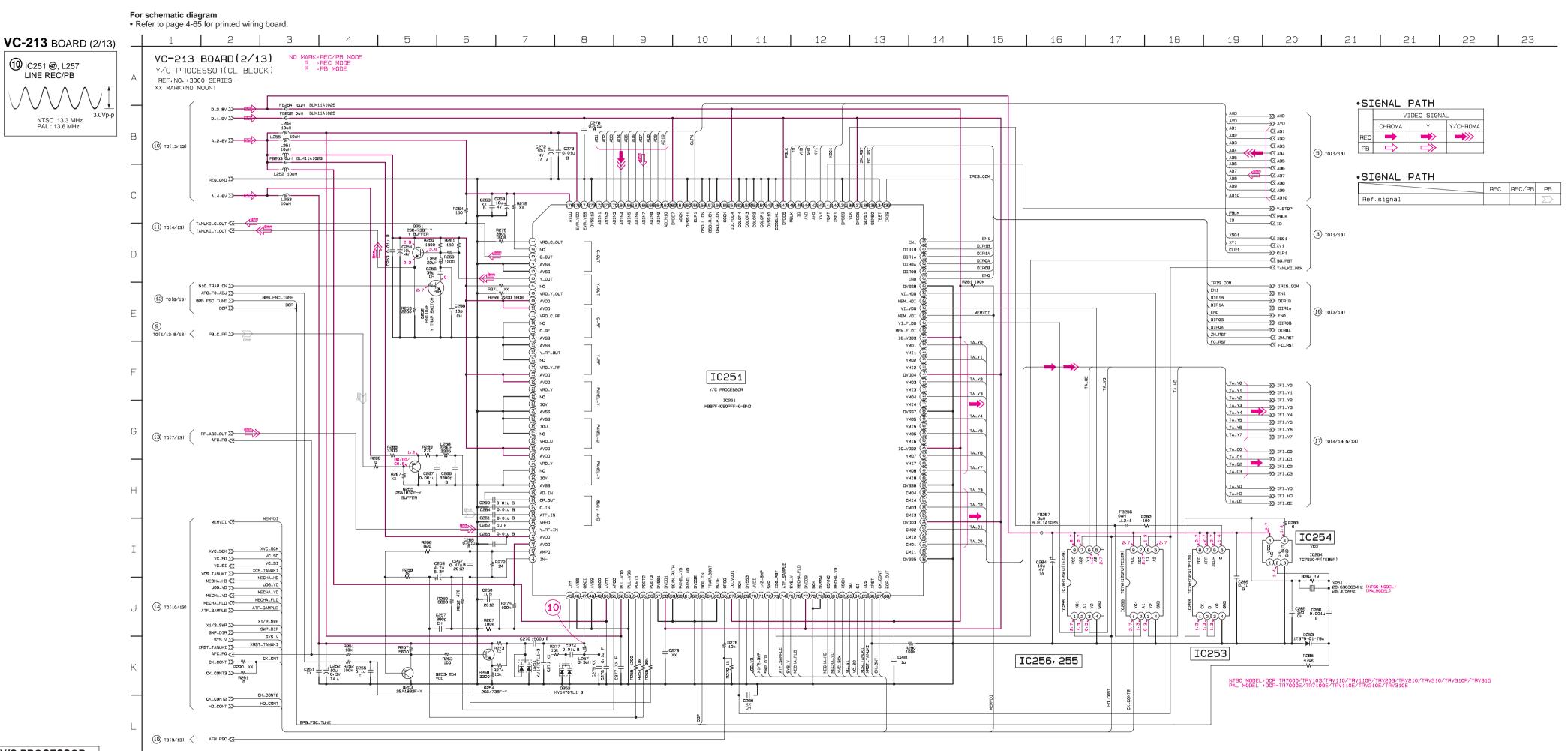
₹ R2403

IC2402

#### For schematic diagram • Refer to page 4-65 for printed wiring board. 1 | 2 | | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 20 ≪ A\_4.6V ≪ CAM\_12V ≪ CAM\_-6.5V VC-213 BOARD(1/13) CAMERA PROCESSOR(CH BLOCK) -REF.NO.:3000 SERIES-(1) TO(13/13) XX MARK: NO MOUNT NO MARK:REC/PB MODE R:REC MODE P:DV PB MODE C:8mm PB MODE FB502 0 0 FB503 - CAM\_DD\_ON > 2 TO(13/13) R505 ≠ ₹ R506 1T379-01-T8A R526 →≫ ID ▶ R2-7/P0/C0 →∑≫ XSG1 →>>> XV1 YSCK YDD1 CHCK TEST CK CK VSS2 OSCO OSCI OSCI VSS1 LPDM R530 \* (3) TO(2/13) -≪7 CLP1 **(1)** →>> TANUKI\_MCK → SG\_RST 22.7/C2.7 CKCDNT2 45 AVD 45 2.6 TG\_AVD AHD 44 2.7 C534 H523 + C533 —∑≫ SPCK0 IC501 TO(4/13,5/13,7/13) 16F GND 1 TIMING GENERATOR CCD\_OUT 2 GND 3 (720H MODEL) 7 XRST\_TANUKI RST (40) 2.2 XCS\_TANUKI SEN (39) 0.1 VC\_SO TO CD-212 BOARD CN1401 A\_4.6V VSHT SSI 38 0.1 SSI 2.5 XVC\_SCK (SEE PAGE 4-11 H0/P2.7/C2.7 XZDEN 1.2 CAM\_-6.5V TO CD-213 BOARD ZDVCOCK ( (SEE PAGE 4-14 (960H MODEL) GCAM\_AD10 GCAM\_AD9 GCAM\_AD9 GCAM\_AD9 GCAM\_ADB HO. 9/P1. 9/C1. 5 RO. 9/P1. 9/C1. 5 RO. 9/P1. 9/C1. 5 RO. 9/P1. 9/C1. 5 (THROUGH THE FP-54 FLEXIBLE) GCAM\_AD7 POIS IC503 HO. B/P1. B/C1. 4 SG06 GCAM\_AD6 R531<sub>W</sub> \* AD10 GCAM\_AD10 AD10 ٧2 R503 ≱ + GCAM\_AD9 P532<sub>W.</sub> \* AD9 AD9 GCAM\_AD8 9533<sub>W</sub> \* AD8 AD8 >>> ADB H1. 0/P1. B/C1. 2 (F) R1. 0/P1. B/C1. 2 (F) SG04 (3 (< | < | < | < | < | GCAM\_AD7 P534<sub>W</sub> \* AD7 AD7 AD6 AD6 AD6 R1.0/P1.8 AD5 AD5 R1. 0/P1. 8/C1. 2 SG03 R1. 0/P1. 8/C1. 2 GG02 R1. 0/P1. 8/C1. 2 SG01 SG01 GCAM\_AD2 | D12 | B1.1 / P1.8 / C1.3 | B1.1 | P1.8 / C1.3 | B1.1 | P1.7 / C1.1 | B1.1 | P1.7 / 5 TO(2/13) \*SIGNAL PATH —∑≫ AD4 AD3 ——**∑**≫ AD3 BO. B/P1.7/ GCAM\_AD2 P539<sub>W</sub> \* AD2 VIDEO SIGNAL —>>> AD2 GCAM\_AD1 7540 W \* AD1 7541 W \* AHD AD1 →>>> AD1 Y/CHROMA CHROMA TG\_AHD AHD —≪∑ AHD R542<sub>W</sub> \* AVD AVD -≪Z AVD AD9 AD6 AD6 AD7 AD7 AD7 AD7 AD7 AD7 AD7 IC502 PB -≪< ck\_cont1 -≪Z CK\_CONT XHST SECTION OF THE PROPERTY O 111098765432 XVC\_SCK XVC\_SCK XCS\_TANUKI ≪ XCS\_TANUKI C529 6.3V 0.1u 47u B TA BB 0.1u/10V XRST\_TANUKI XRST\_TANUKI VC\_SI → VC\_SI 0.1u/10V C532 (6) TO(10/13) 0.1u/10V C533 -≪≺ CAM\_XLINE C534 0.047u/10 --≪ GCAM\_PB 10u/4V 0. 1u/10V C536 --≪Z AGC\_DIRECT --≪< GCAM\_STBY 0.01u/16V C537 —≪∑ FLIP 0521 0.1u B —≪ ACC/RF\_CONT (7) TO(B/13) FB506 -≪Z AGC\_CONT2 0.001u IC503 CXD3145P-T6 + C524 - C518 - C518 - C518 TO(2/13-8/13) 720H MODEL:DCR-TR7000/TRV103/TRV110/TRV110P/TRV203/TRV210/TRV310/TV310P/TRV315 960H MODEL:DCR-TR7000E/TR7100E/TRV110E/TRV210E/TRV310E



#### DCR-TRV103/TRV110/TRV110E/TRV110P/TRV203/TRV210/ TRV210E/TRV310/TRV310E/TRV310P/TRV315 DCR-TR7000/TR7000E/TR7100E



Y/C PROCESSOR VC-213 (2/13)

4-18

4-19 4-20

#### DCR-TRV103/TRV110/TRV110E/TRV110P/TRV203/TRV210/ TRV210E/TRV310/TRV310E/TRV310P/TRV315 DCR-TR7000/TR7000E/TR7100E

For schematic diagram
• Refer to page 4-65 for printed wiring board. | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 2 **|** 3 VC-213 BOARD(3/13) LENS MOTOR DRIVE(LD BLOCK) -REF.NO.:3000 SERIES-\_\_\_\_\_ D\_2.8V THEF.NO.:3000 SERIES

XX MARK:NO MOUNT

NO MARK:REC/PB MODE

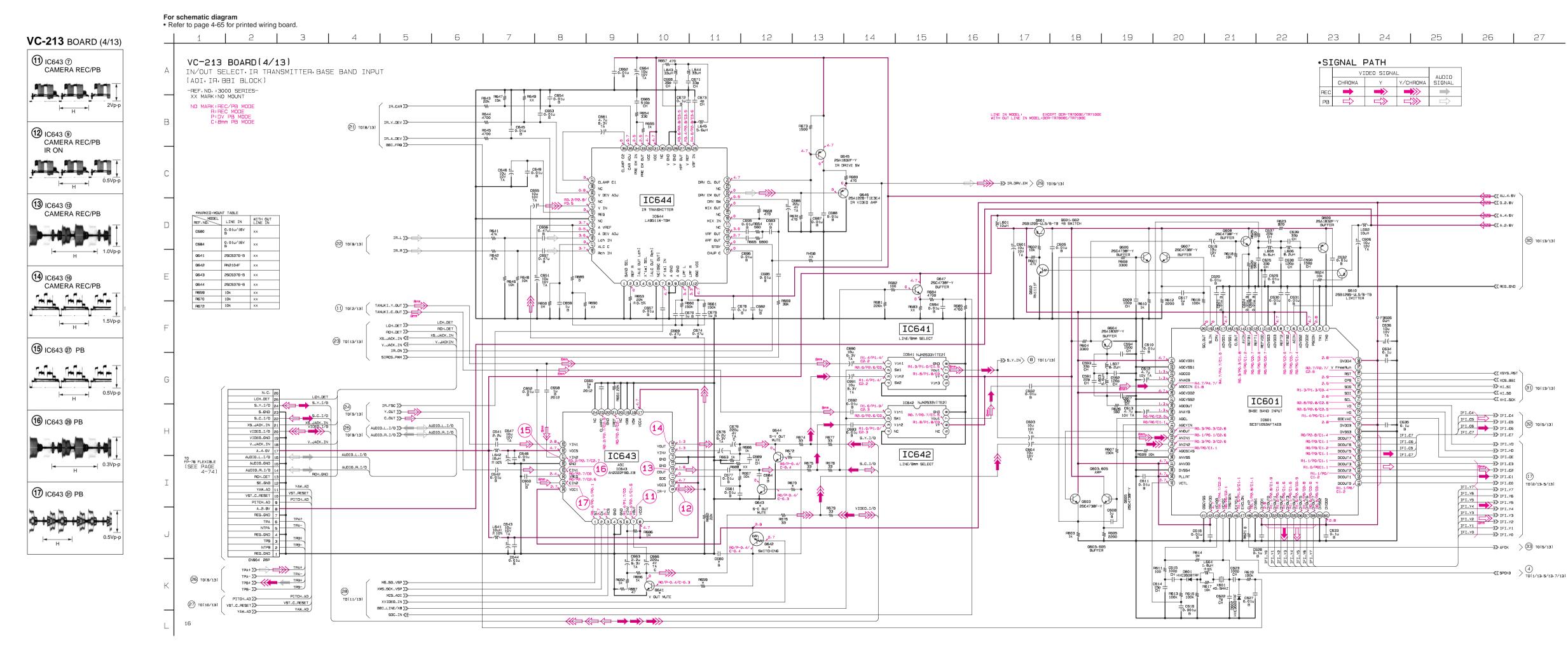
R :REC MODE

P :DV PB MODE

C :8mm PB MODE **✓** MT\_5V ——≪Z MT\_GND (18) TO(4/9) IC551 FOCUS/ZOOM MOTOR DRIVE —≪ DIR18 —≪ DIR1A —≪ EN1 IC551 uPD16833AG3-E2 (PAL MODEL)
IC551 MPC17A134VMEL (NTSC MODEL) FC\_A
ZM\_XA
ZM\_XB CCL CCL VC VM1 A1\_FA A2\_FB A2\_FB A2\_FB A2\_FB A3\_ZA PGND3 A4\_ZB VM3 IN1 EN1 IN1 EN1 IN1 EN1 AORID 🎞 (16) TO(2/13) ----≪₹ DTB0B ZM\_SENSE\_VCC → FC\_RST ZM\_SENSE\_Vcc PLA/GLASS 7 4700 PLA/GLASS ——≪< IRIS\_COM FC\_SENSE\_VCC ZM\_RST\_LED FC\_SENSE\_Vcc FC\_SENSE\_OUT ≪ FC\_RST\_LED ZM\_B ZM\_RST → ∑≫ ZM\_RST ZM\_SENSE\_OUT (19) TO(10/13) ∑≫ FC\_RST ——>>>> PLA/GLASS LENS\_TEMP\_AD >>> LENS\_FILTER\_ON\_SW ENS\_TEMP\_AD BIAS(-)
HALL(-)
CONT(-)
CONT(+)
DRIVE(-)
DRIVE(+) ——≪ IRIS\_PWM ——≪∑ HALL\_REF 20 TO(8/13) | H558 | H562 | H70k | -≪ HALL\_OFFSET ──≪ HALL\_GAIN D551 MA111-(KB).S0 T C551 ± C552 T 10u 6.3V OUTE INE-INE-VCC IN1+ IN1-IC552 C565 0.47u B 2012 C569 0.01u C569 2200p 2200p OUT3
IN3+
GND
IN4+
IN4OUT4 R1-5/P2-8/C2-9551 2SC4738F-Y AMP • LENS BLOCK is replaced as a block.
So that these SCHEMATIC DIAGRAM
and PRINTED WIRING BOARD are omitted. NTSC MODEL:DCR-TRV103/TRV110/TRV110P/TRV203/TRV210/TRV310/TRV310P/TRV315/TR7000 PAL MODEL:DCR-TRV110E/TRV210E/TRV310E/TR7000E/TR7100E Q552 2SC4738F-Y AMP

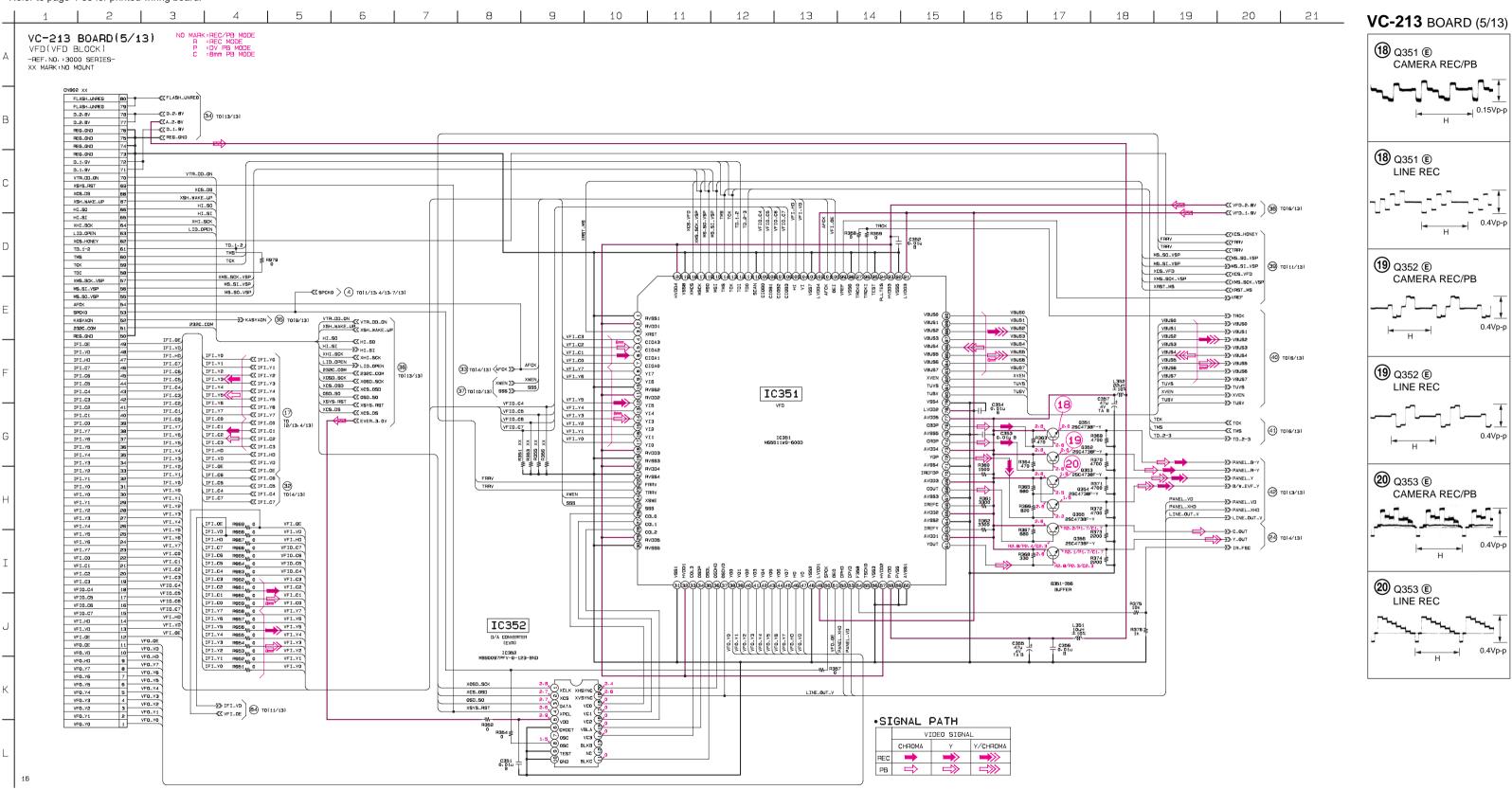
4-21

LENS MOTOR DRIVE VC-213 (3/13)

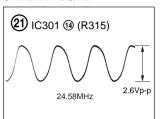


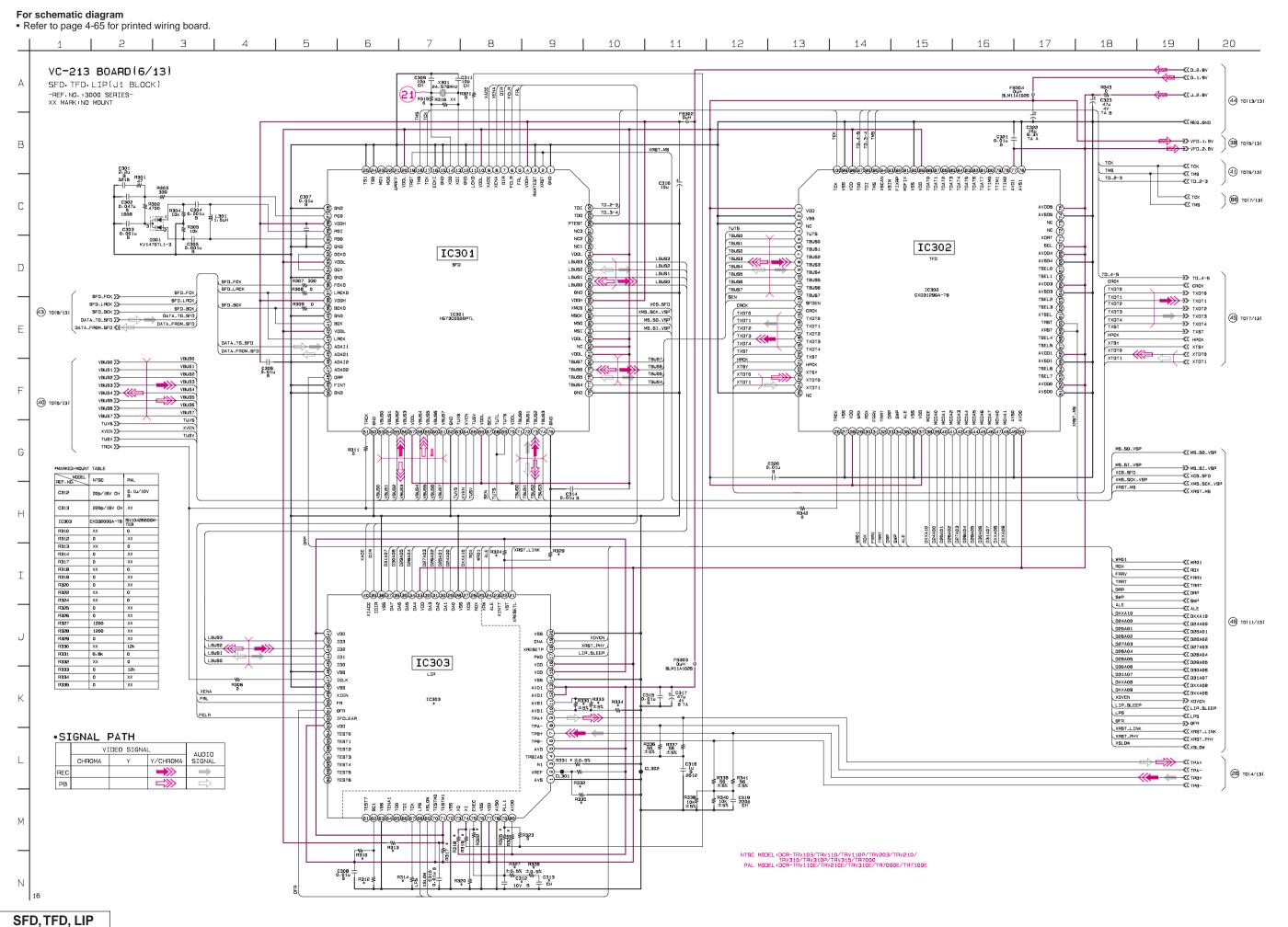
#### For schematic diagram

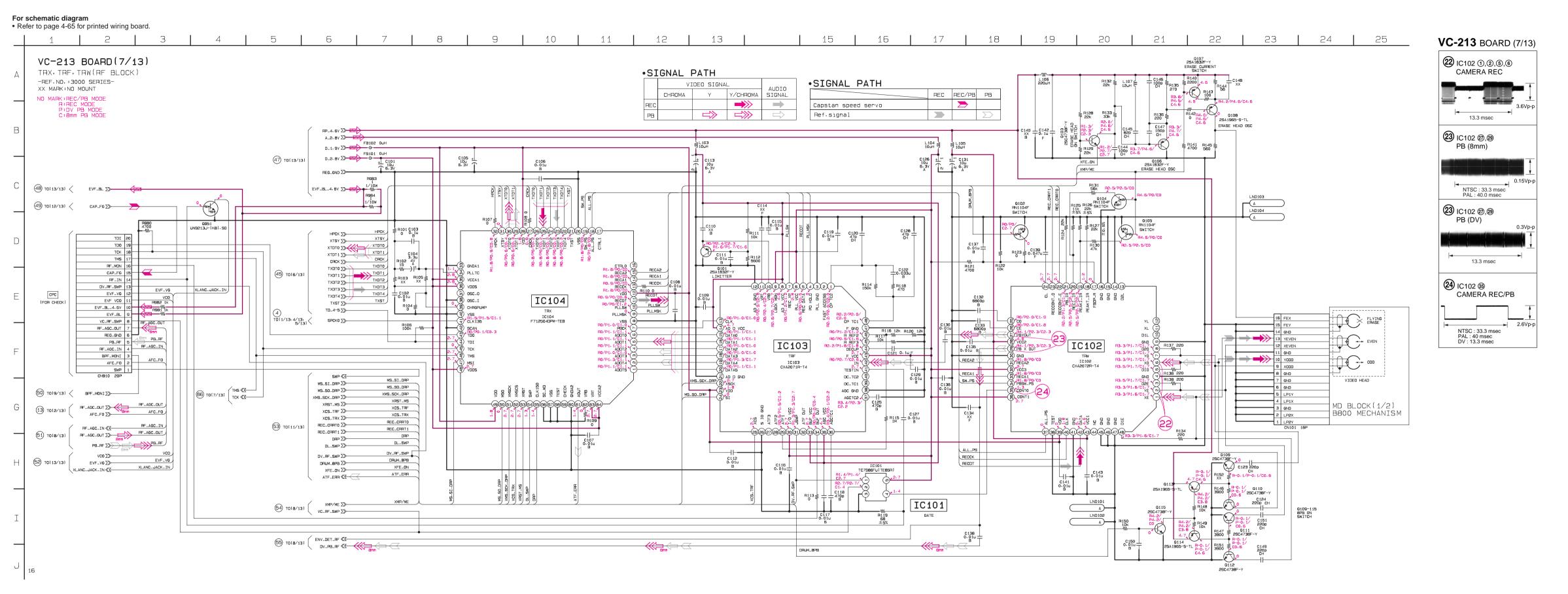
• Refer to page 4-65 for printed wiring board.

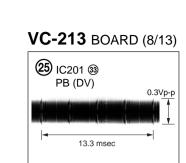


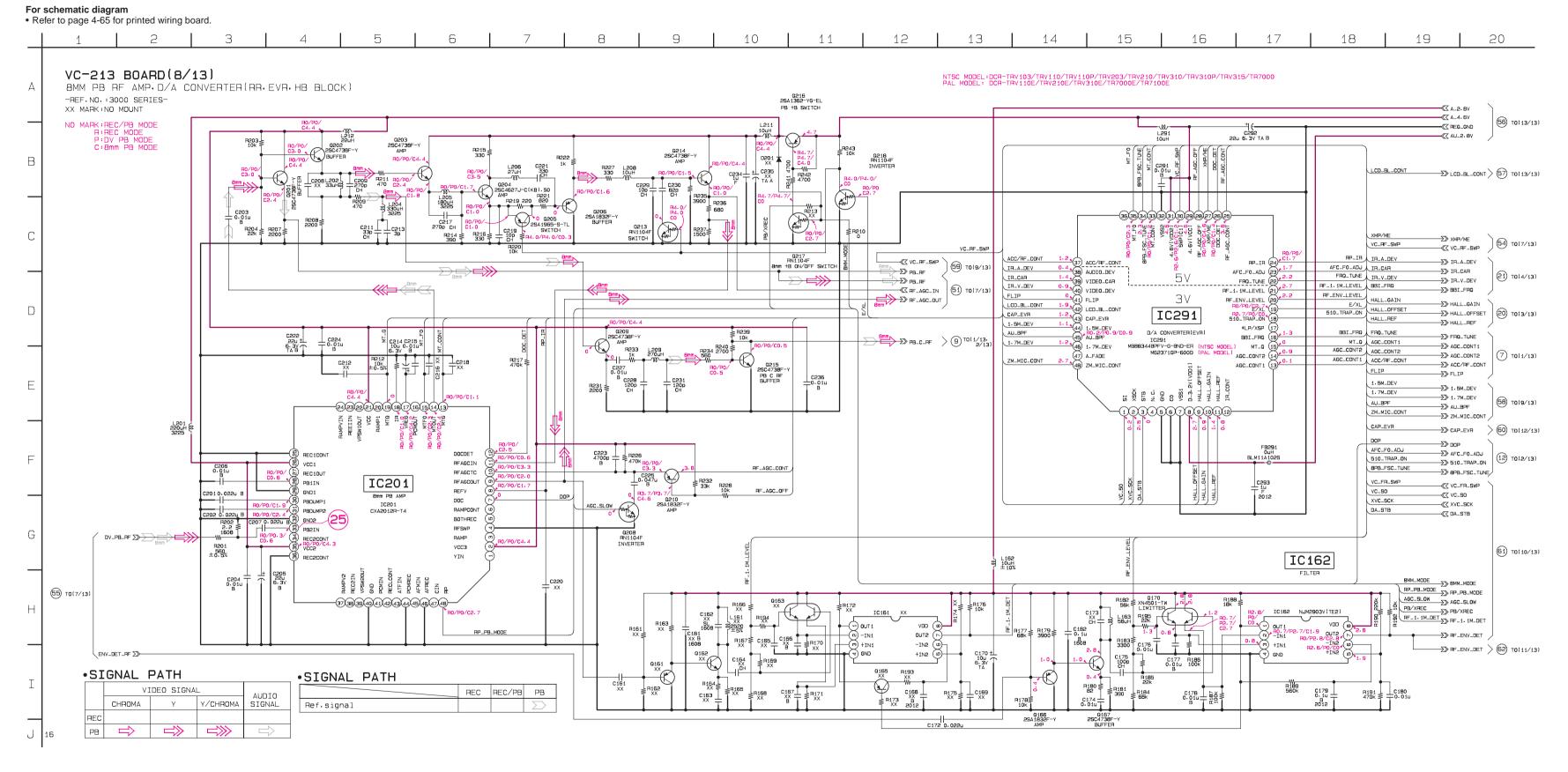
VC-213 BOARD (6/13) CAMERA REC/PB

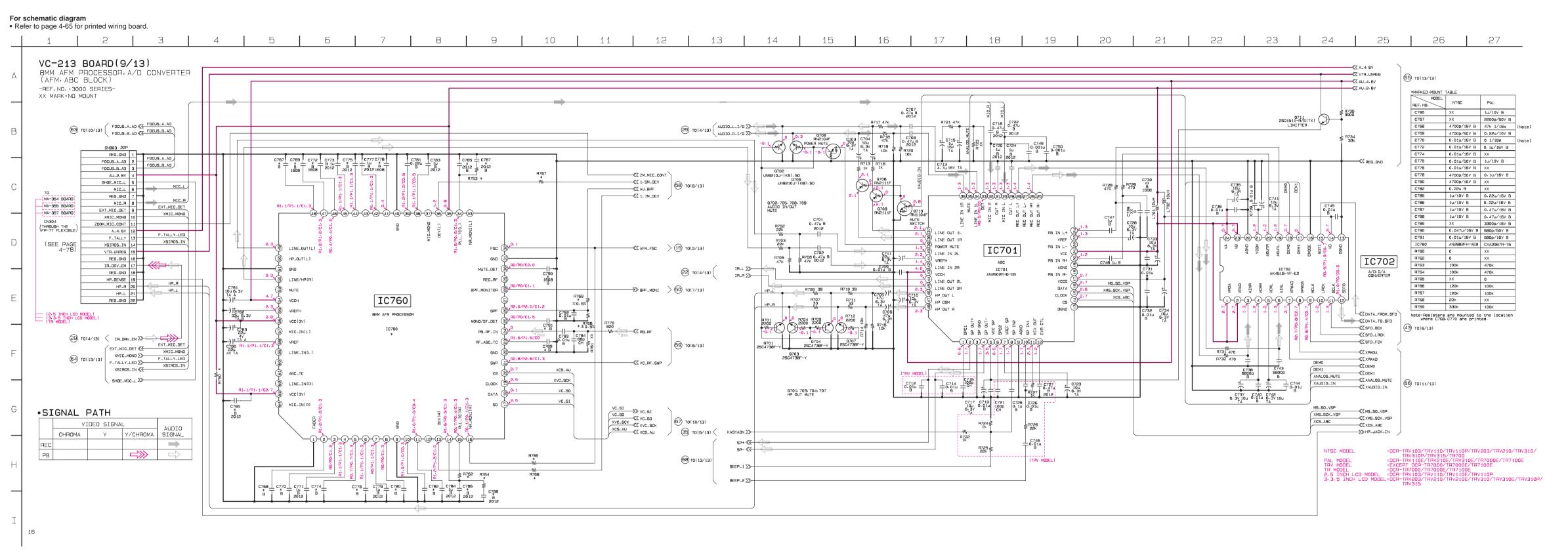






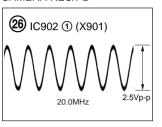


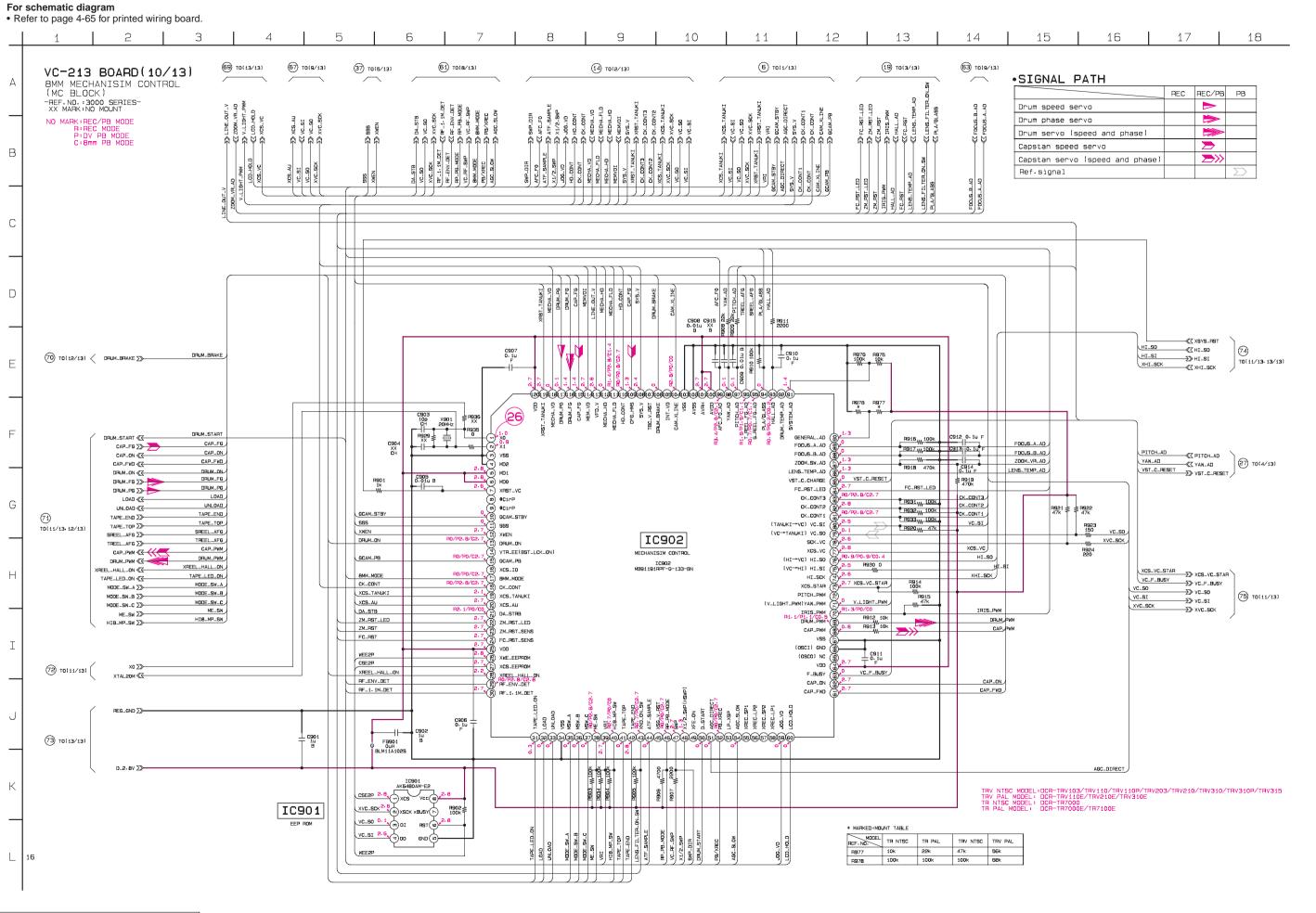




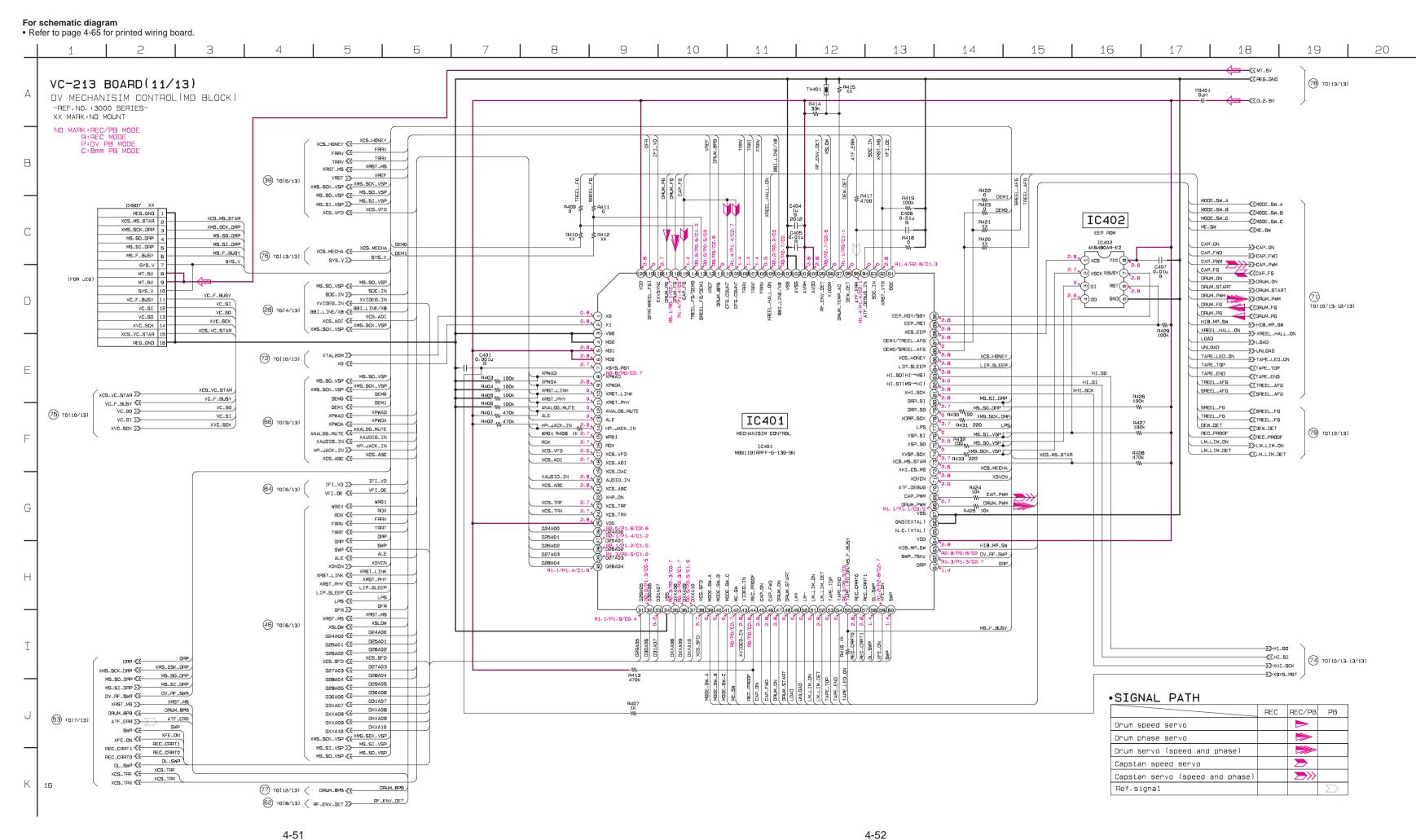
### DCR-TRV103/TRV110/TRV110E/TRV110P/TRV203/TRV210/ TRV210E/TRV310/TRV310E/TRV310P/TRV315 DCR-TR7000/TR7000E/TR7100E

#### **VC-213** BOARD (10/13) CAMERA REC/PB





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VC-213 (11/13)

#### DCR-TRV103/TRV110/TRV110E/TRV110P/TRV203/TRV210/ TRV210E/TRV310/TRV310E/TRV310P/TRV315 DCR-TR7000/TR7000E/TR7100E

FP-249 (S/T REEL SENSOR), FP-356 (TOP SENSOR), FP-355 (TAPE LED) FLEXIBLE BOARD — Ref. No. FP-249, 356, 355 FLEXIBLE board: 20.000 series —

CAMERA REC/PB

(27) IC451 (1),(2),(29)

**28** IC451 ①

**29** IC451 <sup>(18)</sup>

**30** IC452 (7)

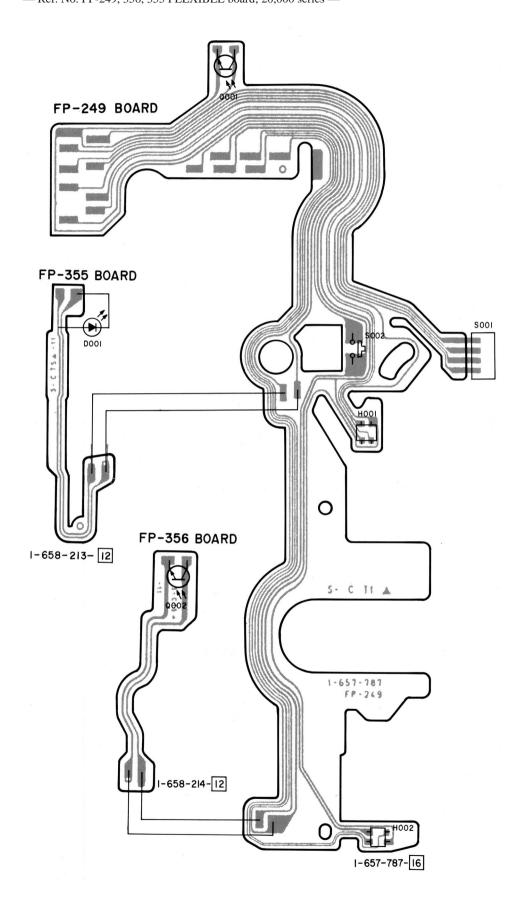
(31) IC452 (9)

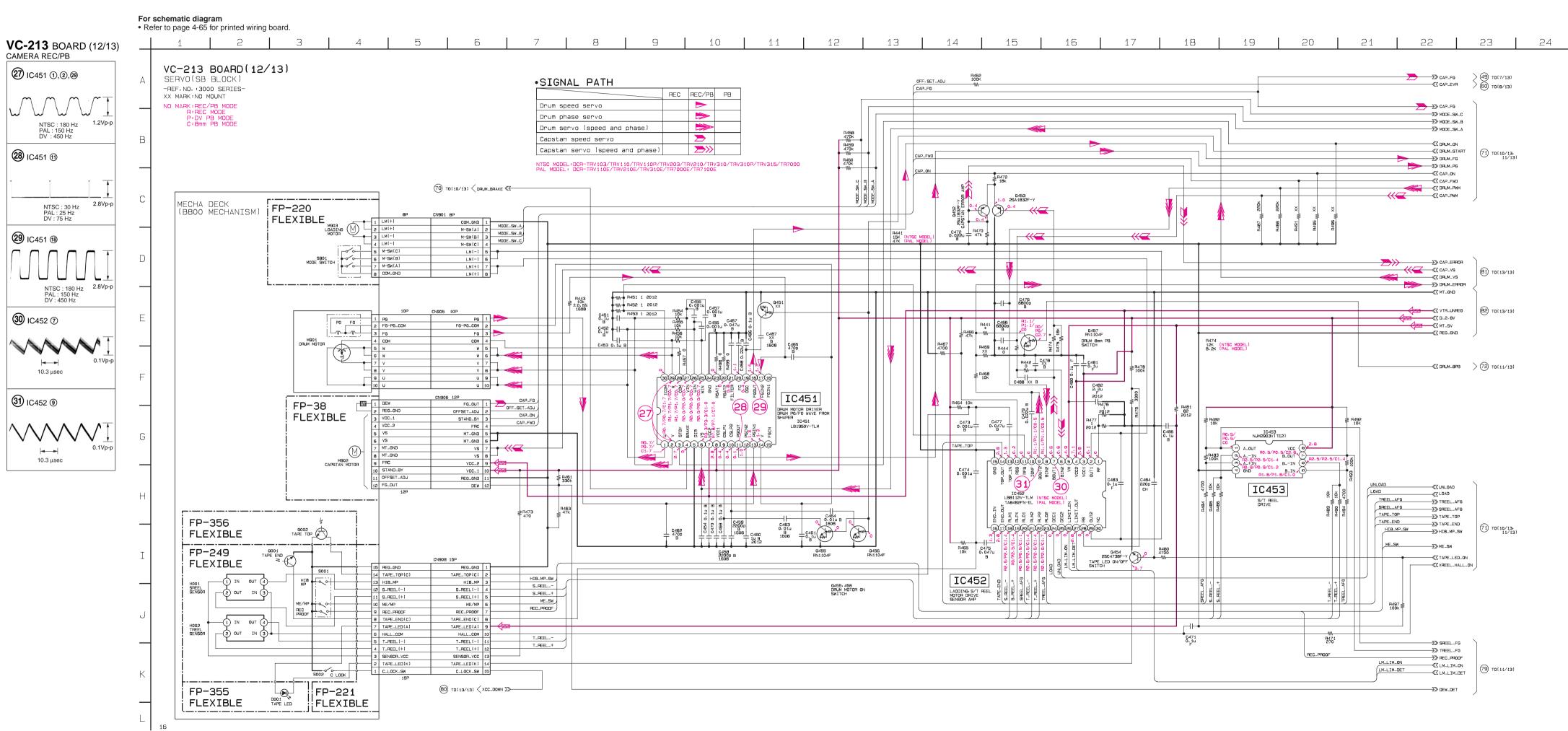
10.3 μsec

10.3 μsec

4-56

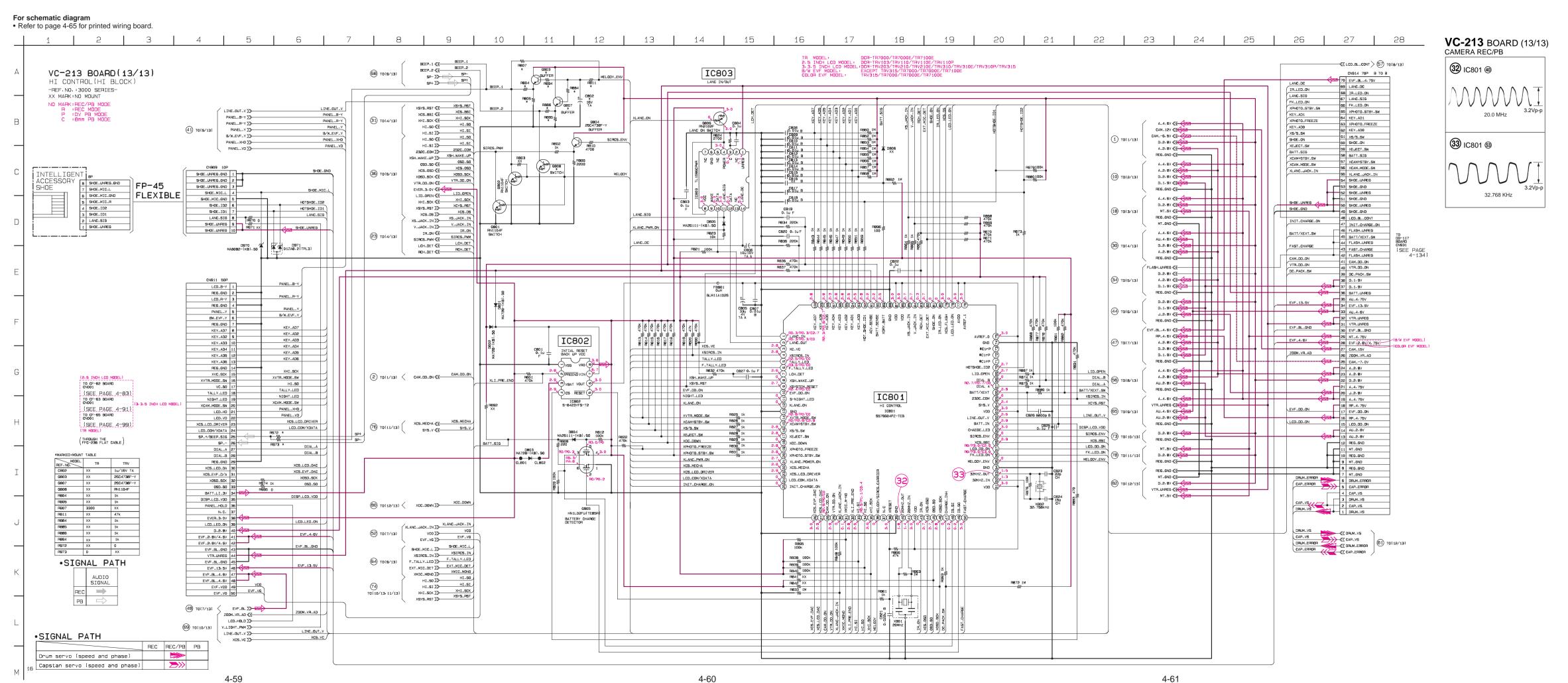
NTSC : 30 Hz PAL : 25 Hz DV : 75 Hz





/ S/T REEL SENSOR, TOP SENSOR, TAPE LED FP-249, FP-356, FP-355 VC-213 (12/13)

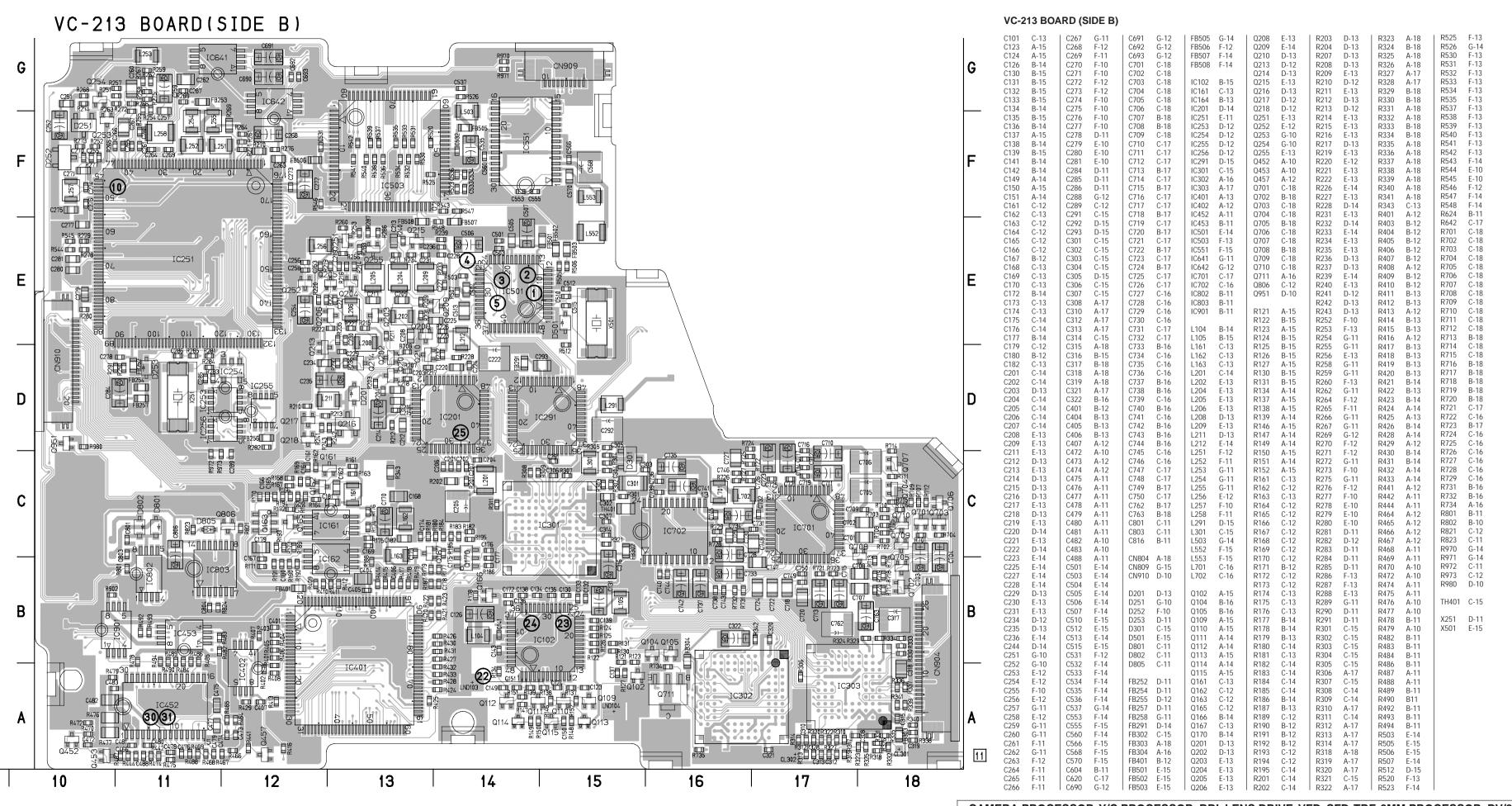
4-57



#### D/A CONVERTER, 8MM AFM PROCESSOR, 8MM MECHANISM CONTROL, DV MECHANISM CONTROL, SERVO, HI CONTROL) PRINTED WIRING BOARD - Ref. No. VC-213 Board; 3,000 Series -VC-213 BOARD(SIDE A) VC-213 BOARD (SIDE A) R936 B-7 R951 D-8 R952 D-8 R953 D-8 R954 D-8 CN101 A-4 CN501 E-5 CN551 G-5 CN807 D-9 CN901 A-2 CN902 D-7 CN903 A-1 CN906 A-7 CN908 A-8 CN911 C-7 CN914 B-9 C554 F-5 C556 F-4 C557 F-4 C557 F-4 C558 F-5 C561 F-5 C562 F-5 C563 F-4 C565 F-4 C565 F-4 C565 F-4 C567 F-4 C567 F-4 C571 F-7 C590 F-7 C591 F-7 C690 F-7 C691 E-5 C602 E-7 C603 E-6 C604 E-5 C604 E-5 C605 F-7 C607 E-6 C608 E-6 C609 F-6 C601 E-7 C611 E-6 C612 F-7 C611 E-6 C612 F-7 C613 F-6 C614 D-6 C615 E-6 C616 E-7 C617 F-7 C618 F-7 C618 F-7 C619 F-7 C620 F-7 C620 F-7 C621 G-7 C621 G-7 C621 G-7 C621 G-7 C621 F-7 C622 F-7 C633 D-8 C644 C-3 C645 F-7 C626 F-7 C626 F-7 C627 E-6 C628 D-7 C627 E-6 C628 D-7 C620 F-7 C620 F-7 C621 G-7 C621 G-7 C621 G-7 C621 G-7 C621 G-7 C621 G-7 C622 F-7 C623 E-6 C624 F-7 C625 F-7 C626 F-7 C626 F-7 C627 E-6 C628 D-7 C629 F-7 C630 F-7 C631 F-7 C632 F-7 C631 F-7 C632 F-7 C633 D-8 C644 C-3 C655 R-3 C656 R-2 C657 R-2 C657 R-2 C658 R-2 C657 R-2 C659 R-3 C666 R-2 C667 R-2 C66 C675 B-1 C676 C-3 C677 D-3 C678 B-1 C679 C-3 C681 D-3 C682 B-1 C684 D-4 C685 B-1 C686 A-1 C687 A-1 C688 A-1 C688 A-1 C689 C-3 C691 E-6 C692 E-6 C692 E-6 C695 B-1 C766 B-2 C765 B-2 C766 B-2 C767 B-1 C768 B-2 C769 B-1 C770 B-2 C771 B-2 C771 B-2 C7773 B-1 Q606 F-6 Q607 F-6 Q608 F-7 Q609 F-7 Q609 F-7 Q641 D-4 Q642 D-4 Q643 D-4 Q644 D-3 Q645 A-1 Q646 A-1 Q647 D-3 Q801 G-7 Q802 G-7 Q803 G-7 Q803 G-7 Q804 G-7 Q805 E-9 Q807 G-7 Q808 G-7 R460 A-7 R461 A-7 R463 A-7 R471 A-8 R473 A-8 R842 F-9 R843 G-7 R844 G-7 R845 G-8 R846 G-8 R847 G-8 R848 F-8 R850 G-8 R851 G-8 R851 G-8 R852 G-7 R853 G-8 R855 G-8 R855 G-8 R856 G-8 R857 G-8 R857 G-8 R859 G-8 R956 D-8 R957 D-8 R958 D-8 R959 E-8 R960 E-8 R480 A-9 R481 A-9 R481 A-9 R482 A-7 R491 A-7 R495 A-7 R496 B-6 R497 A-9 R498 B-6 R501 E-5 R502 E-5 R504 F-5 R508 F-5 D551 G-4 D601 E-6 D602 E-6 D803 C-7 D804 E-8 D806 G-7 D970 C-1 D971 C-1 R961 E-8 R962 E-8 R963 E-8 R964 E-8 R965 E-8 R966 E-8 R967 D-9 R968 E-8 R969 D-9 R974 E-9 R975 C-8 R977 C-8 C115 B-4 C116 B-4 C117 B-4 C118 B-5 C119 B-4 C120 B-4 C121 B-5 R859 G-8 R860 G-7 R861 E-8 R862 G-7 R863 F-8 R864 G-8 R865 G-8 R867 D-9 R868 G-8 R869 D-9 R870 G-8 R871 G-9 R872 F-9 R873 G-9 R874 G-9 FB101 B-3 FB102 A-3 FB606 E-8 FB801 E-8 FB901 A-7 R101 B-3 R102 B-3 R103 B-3 R104 B-3 R106 B-3 R107 C-3 R108 C-3 R110 C-5 R111 C-5 R112 C-5 R114 C-5 R115 B-5 R116 B-5 R117 B-5 R118 B-5 R119 B-5 R120 B-5 R121 B-5 R128 B-5 R129 B-5 R132 B-5 R133 B-5 R134 B-5 R140 B-5 R141 B-5 R141 B-5 R141 B-5 R141 B-5 R141 B-5 R141 B-5 R142 B-5 R143 B-5 R144 B-5 </tr R513 F-6 R514 F-6 R515 F-6 R516 F-6 R517 F-6 R518 F-6 R519 E-5 R521 E-5 R521 E-5 R552 G-4 R553 F-4 R555 F-4 R555 F-4 R555 F-4 R556 F-4 R556 F-4 R556 F-4 R556 F-5 R561 F-5 R562 F-5 R561 F-5 R562 F-5 R563 F-5 R564 F-5 R565 F-4 R568 F-4 R570 F-4 R570 F-4 R570 F-4 R571 E-4 R570 F-4 R570 F-4 R571 E-4 R570 F-4 R571 E-7 R572 G-5 R575 G-5 R576 G-5 R577 G-4 R571 E-4 R571 E-4 R571 E-4 R571 E-4 R570 F-4 R571 E-4 R570 F-4 R571 E-4 R570 F-4 R571 E-6 R601 G-7 R602 F-7 R603 E-6 R607 E-6 R607 E-6 R607 E-6 R607 E-6 R607 E-6 R608 F-6 R609 E-6 R609 E-6 R601 D-6 R611 D-6 R615 D-6 R616 F-7 R618 F-7 R977 C-8 R978 C-8 R979 D-8 R981 D-9 R982 D-9 R983 D-9 R984 D-9 IC101 B-4 IC103 B-4 IC104 B-3 IC351 D-5 IC352 E-4 IC451 B-6 IC502 F-6 IC552 F-4 IC601 E-7 IC643 C-3 IC644 A-2 IC760 C-2 IC801 F-8 IC902 B-8 R673 A-1 R675 D-3 R676 D-3 R676 D-3 R679 D-3 R680 A-1 R681 D-3 R682 D-3 R683 D-4 R684 D-4 R686 D-3 R687 D-3 R687 B-2 R690 A-3 R760 B-2 C776 C-2 C777 B-1 C778 C-1 C779 C-2 C780 C-2 C781 C-1 C782 C-2 C783 C-1 C784 C-2 C787 C-1 C788 C-2 C789 C-2 C790 C-1 C791 C-2 C792 C-2 C793 C-2 C794 C-2 C802 G-7 C805 G-8 C806 G-7 C807 G-9 C809 G-7 C811 G-7 C812 G-7 C813 G-7 C814 G-7 C815 G-7 C816 G-7 C817 G-8 G-9 C823 F-9 C822 G-9 C823 F-9 C826 R985 E-9 IC352 R966 R964 R964 R963 R961 R961 R961 X301 C-5 X601 E-6 X801 E-8 X802 E-9 R874 G-9 R875 G-9 R876 F-9 R878 G-9 R879 G-8 R880 G-9 R881 F-9 BB BB BB BB BB BB R967 R762 R763 R764 R765 R766 R882 F-9 R883 F-9 L103 C-6 L106 C-5 L107 B-5 L351 D-4 L352 C-4 L502 F-7 L551 E-4 L601 E-5 L602 F-7 L603 E-6 L604 E-6 L605 F-7 L606 F-7 L606 F-7 L607 F-6 L641 C-4 L642 C-4 L643 A-1 L644 A-1 R884 G-7 R885 G-7 R886 G-7 R887 G-9 R979 ⅢⅡ R767 C-1 R768 C-2 R769 C-2 R770 C-2 R802 G-7 R803 G-7 R805 G-7 R806 G-7 R806 G-7 R807 G-7 R808 E-9 R810 G-7 R811 G-7 R811 G-7 R887 G-9 R888 G-9 R889 F-9 R890 G-7 R891 F-9 R892 G-7 R893 F-9 R894 G-7 R895 F-8 R896 G-7 R901 B-7 R903 A-7 R904 A-8 R906 A-8 R906 A-8 C455 B-6 C457 B-6 C458 B-7 C459 B-7 C460 B-6 C461 B-6 C462 B-6 For printed wiring boards This board is eight-layer print board. However, the patterns of layers two to seven have not been included in the diagram. Chip parts C467 B-6 C468 B-6 C469 B-6 C470 B-7 C471 A-8 C484 A-9 \*\* Q101 C-5 Q103 B-5 Q106 B-5 Q107 B-5 Q108 B-5 Q351 C-5 Q352 C-5 Q353 C-5 Q354 C-5 Q356 C-5 Q356 C-5 Q451 B-6 Q454 A-9 Q455 C-6 Q456 C-6 Q463 C-6 Q463 C-6 Q463 C-6 Q551 F-4 Q552 F-4 Q552 F-4 Q552 F-4 Q553 G-5 Q601 G-6 Q602 F-7 Q603 E-6 Q604 F-6 R907 A-8 R908 C-8 R909 C-8 R910 C-8 R911 C-8 A-9 B-6 B-6 E-5 F-5 C486 C487 C502 C508 There are few cases that the part printed on this diagram isn't mounted in this model. C508 F-5 C509 G-5 C511 F-5 C514 F-5 C517 F-5 C518 F-6 C519 F-6 C520 F-6 C521 F-6 R916 C-8 <sup>42</sup> R457⊞ R917 C-9 R918 C-9 R919 B-9 IIIR109 II IIC107 RGB DECODER, LCD, TIMING GENERATOR, BACK LIGHT DRIVE R920 B-9 R619 E-6 R620 F-7 R621 D-7 R623 F-7 R624 F-7 R625 F-7 R628 E-6 R641 B-2 R642 B-2 C522 F-6 C523 F-6 C524 F-6 C525 G-6 C526 F-6 C527 F-6 R923 / CAMERA PROCESSOR, Y/C PROCESSOR, FOCUS/ZOOM MOTOR DRIVE, REC/PB HEAD R924 B-9 R929 B-7 R930 B-8 R931 B-9 C673 ANIT, VIDEO/INTENFACE, IR TRANSMITTER, MODE CONTROL, SERVO, HI CONTROL, SYSTEM CONTROL, AUDIO PROCESSOR C528 R932 B-9 R933 R456 B-6 C530 R643 A-2 R836 R934 R457 B-6 R644 A-3

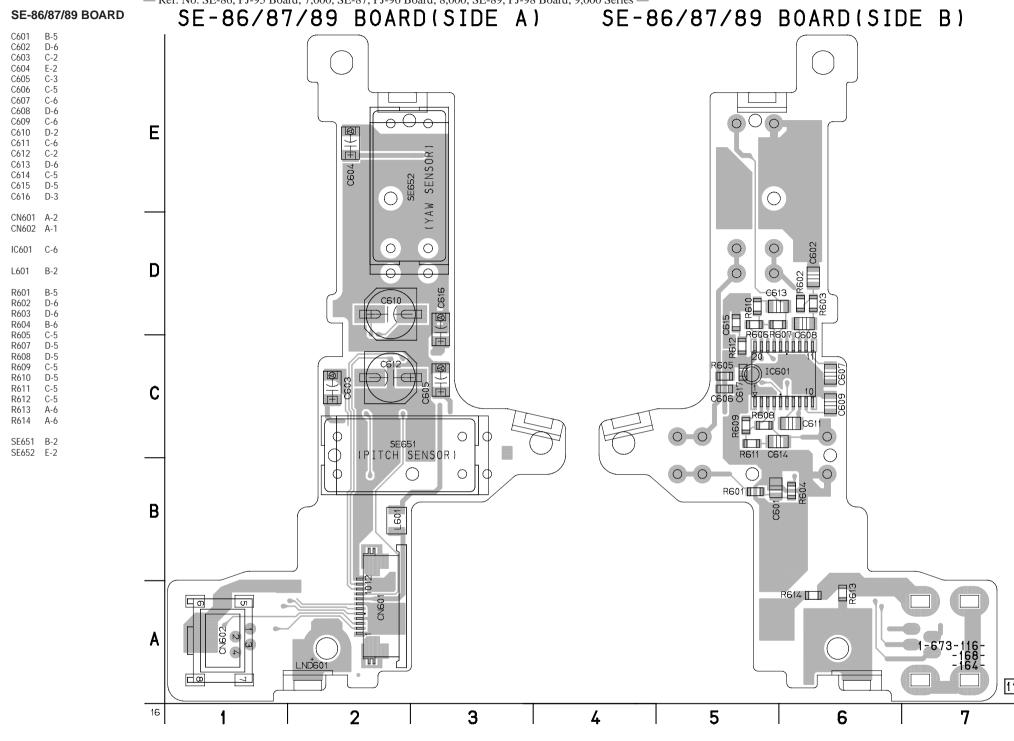
4-65

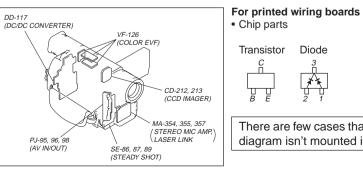
VC-213 (CAMERA PROCESSOR, Y/C PROCESSOR, LENS MOTOR DRIVE, IN/OUT SELECT, IR TRANSMITTER, BASE BAND INPUT, VFD, SFD, TFD, LIP, TRX, TRW, 8MM PB RF AMP,



#### SE-86/87/89 (STEADY SHOT), PJ-95/96/98 (AV IN/OUT) PRINTED WIRING BOARDS

— Ref. No. SE-86, PJ-95 Board; 7,000, SE-87, PJ-96 Board; 8,000, SE-89, PJ-98 Board; 9,000 Series —





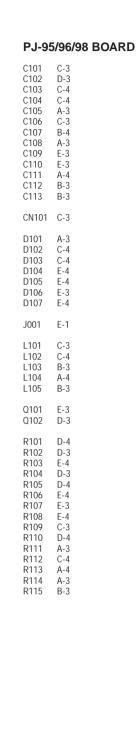
4-70

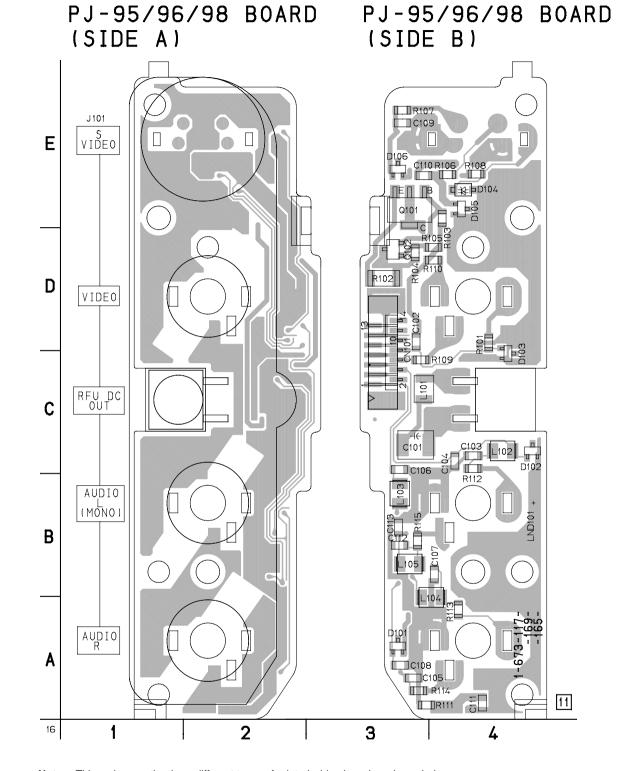
 Chip parts Transistor Diode 2 1

There are few cases that the part printed on this diagram isn't mounted in this model.

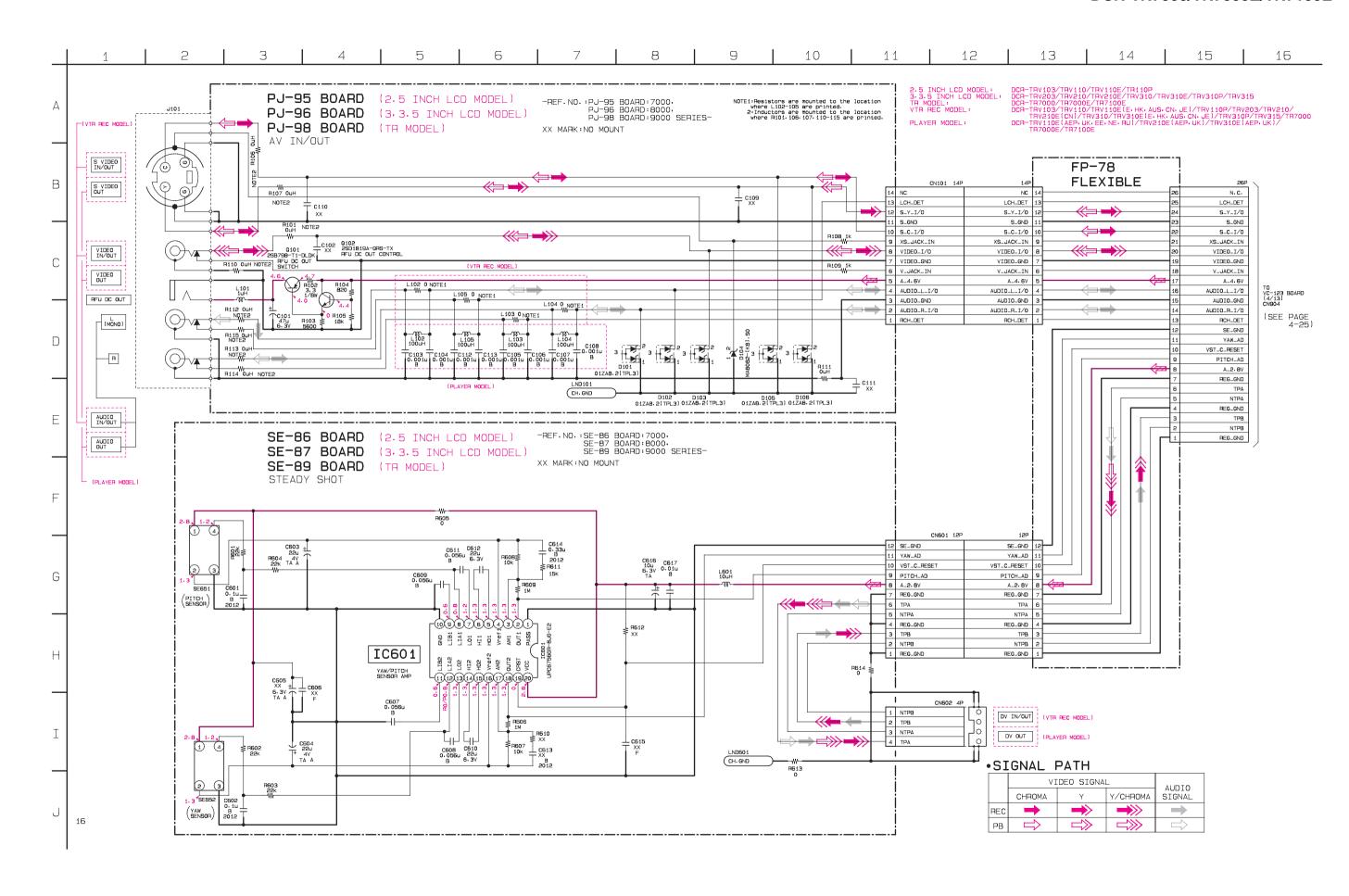
Note: This series use the three different types of printed wiring board as shown below. DCR-TRV103/TRV110/TRV110E/TRV110P: SE-86: 1-673-116-DCR-TRV203/TRV210/TRV210E/TRV310/TRV310E/TRV310P/TRV315: SE-87: 1-673-168-DCR-TR7000/TR7000E/TR7100E: SE-89: 1-673-164-

4-71





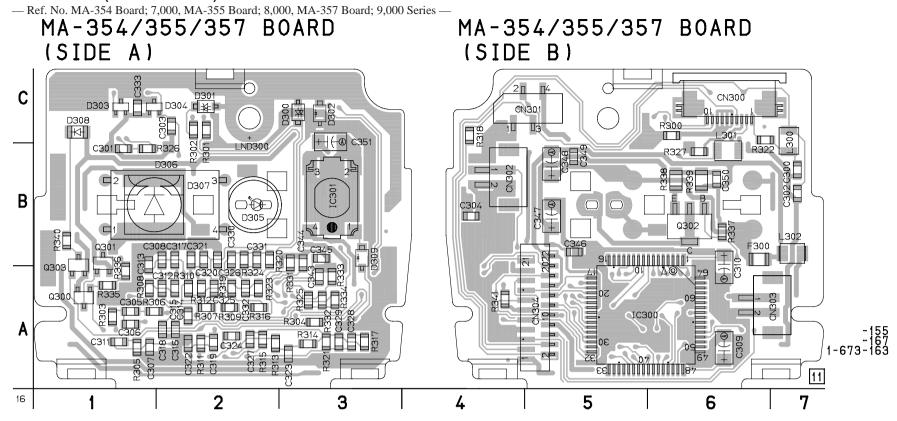
**Note:** This series use the three different types of printed wiring board as shown below. DCR-TRV103/TRV110/TRV110E/TRV110P: PJ-95: 1-673-117-DCR-TRV203/TRV210/TRV210E/TRV310/TRV310E/TRV310P/TRV315: PJ-96: 1-673-169-DCR-TR7000/TR7000E/TR7100E: PJ-98: 1-673-165-



#### MA-354/355/357 BOARD

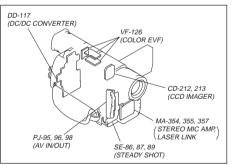
C300 C301 C302 C303 C304 C305 C306 C307 C308 C309 C311 C311 C312 C313	B-7 B-1 B-7 C-2 B-4 A-1 A-1 B-2 A-6 A-6 A-1 A-2 B-1	F300	B-6
		IC300 IC301	A-5 B-3
		L300 L301 L302	C-7 B-6 B-7
		Q300 Q301 Q302 Q303	A-1 B-1 B-6 B-1
C314 C315 C316 C317 C318 C319 C320 C321 C322 C323 C324 C325 C326 C327 C328 C329 C330 C331 C332 C333 C344 C345 C346 C347 C346 C347 C348 C349 C346 C347 C346 C347 C348 C349 C347 C348 C349 C349 C350 C351 C361 C361 C361 C361 C361 C361 C361 C36	A-2 A-2 A-2 B-2 A-2 B-2 A-3 A-2 A-3 A-2 A-3 A-2 A-3 B-2 C-1 A-3 B-5 B-5 B-5 B-5 B-5 B-6 C-3	R300 R301 R302 R303 R304 R305 R306 R307 R310 R311 R312 R313 R314 R315 R316 R317 R318 R319 R320 R321 R323 R324 R327 R323 R324 R325 R326 R327 R331 R332 R332 R332 R332 R333	C-6 C-2 C-2 A-1 A-3 A-1 A-2 A-2 A-2 A-2 A-2 A-2 A-2 A-2 A-2 A-2
CN300 CN301 CN302 CN303 CN304	C-6 C-4 B-4 A-7 A-5	R334 R335 R336 R337 R338 R339 R340 R341	A-3 A-1 A-1 B-6 B-6 B-6 B-1 A-4
D301 D302 D303 D304 D305 D306 D307 D308 D309	C-2 C-3 C-1 C-1 B-2 B-1 B-2 C-1 B-3		

#### MA-354/355/357 (STEREO MIC AMP) PRINTED WIRING BOARD



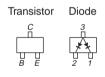
Note: This series use the three different types of printed wiring board as shown below.

DCR-TRV103/TRV110/TRV110E/TRV110P: MA-354: 1-673-155
DCR-TRV203/TRV210/TRV210E/TRV310/TRV310E/TRV310P/TRV315: MA-355: 1-673-167
DCR-TR7000/TR7000E/TR7100E: MA-357: 1-673-163-

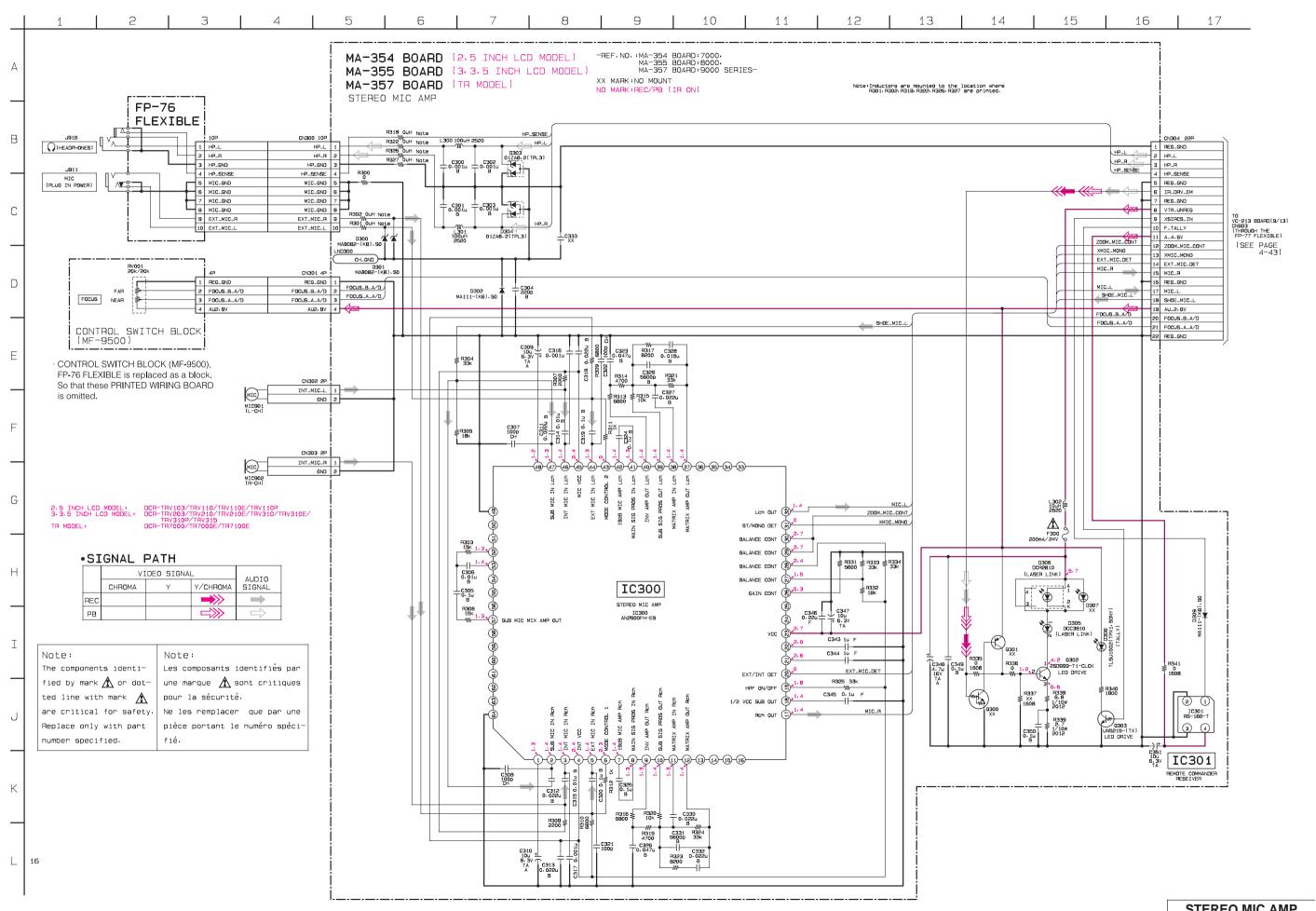


#### For printed wiring boards

• Chip parts

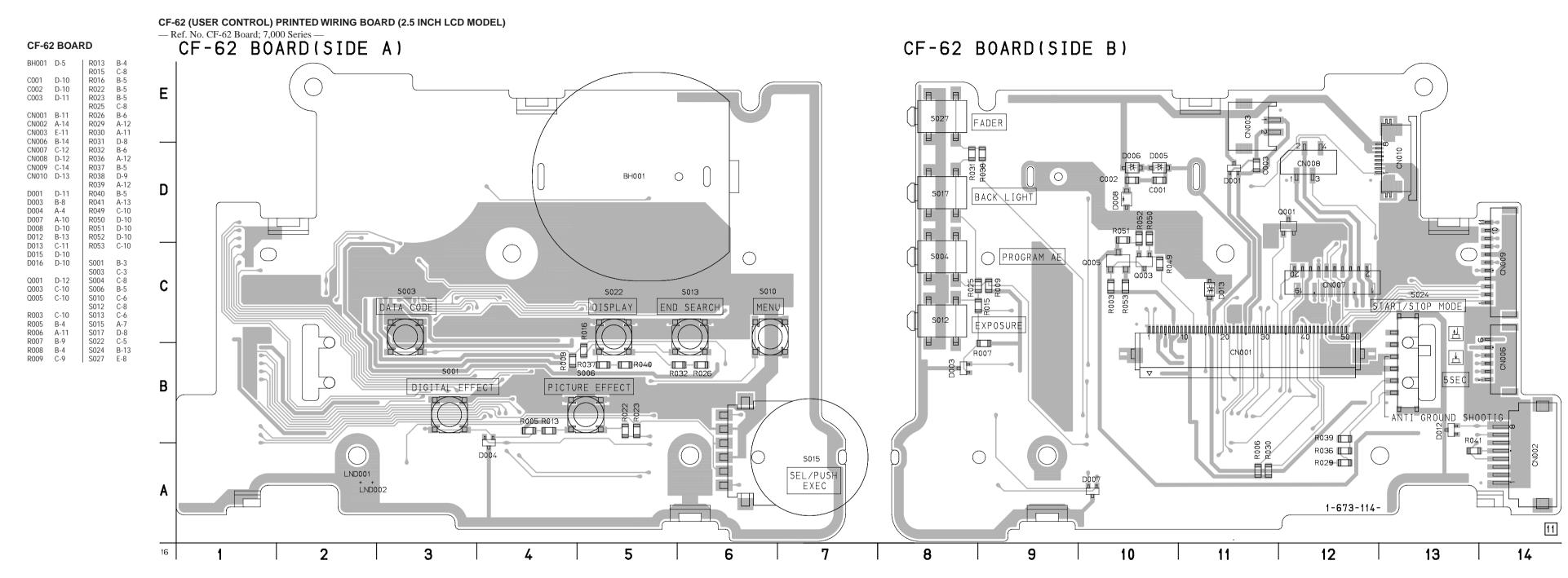


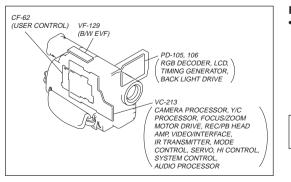
There are few cases that the part printed on this diagram isn't mounted in this model.



4-78

STEREO MIC AMP MA-354/355/357



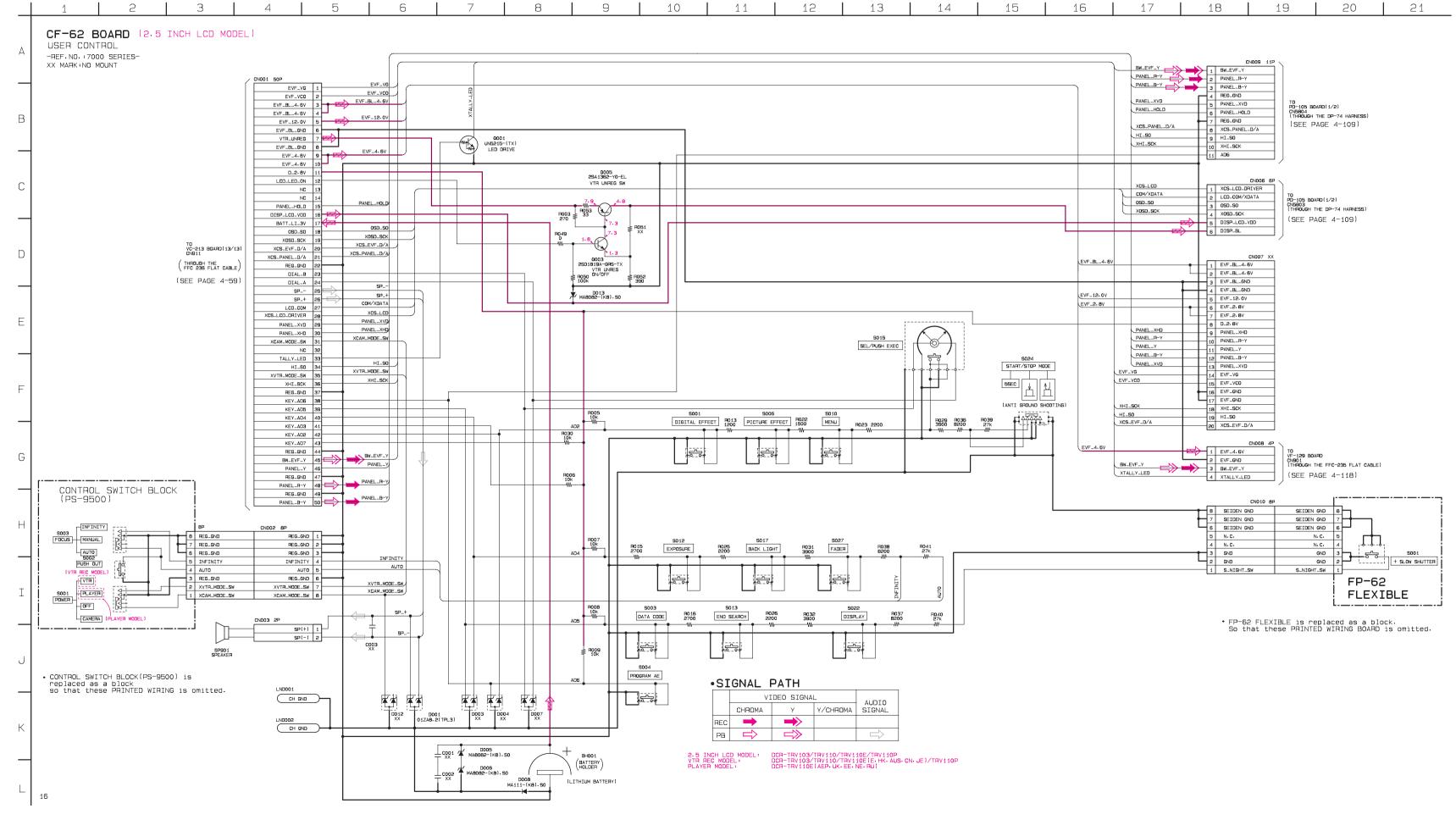


For printed wiring boards
• Chip parts

Transistor Diode

There are few cases that the part printed on this diagram isn't mounted in this model.

4-80 4-81



#### CF-63 BOARD

| BH001 | B-2 | R009 | C-8 | R013 | C-8 | R015 | B-8 | R022 | C-8 | R022 | C-8 | R022 | C-8 | R023 | D-11 | R025 | C-8 | R025 | C-8 | R026 | C-8 | R027 | R027 | D-11 | R025 | C-8 | R028 | D-6 | R020 | D-11 | R026 | R030 | B-6 | R030 | D-15 | R037 | D-15 | R037 | D-15 | R037 | D-15 | R037 | D-15 | R039 | D-11 | R039 | D-11 | R040 | D-16 | R040 | D-16 | R040 | D-16 | R040 | D-16 | R040 | B-16 | R050 | B-11 | R052 | B-12 | R053 | B-13 | R053 | R D001 D-16 D003 C-10 D004 C-10 D005 B-16 D006 B-16 D007 A-11 D008 B-16 D012 A-16 D013 B-13 
 D012
 A-16

 D013
 B-13
 S001
 C-4

 S004
 C-8
 S004
 C-8

 S001
 C-5
 S006
 C-5

 S003
 B-12
 S010
 C-7

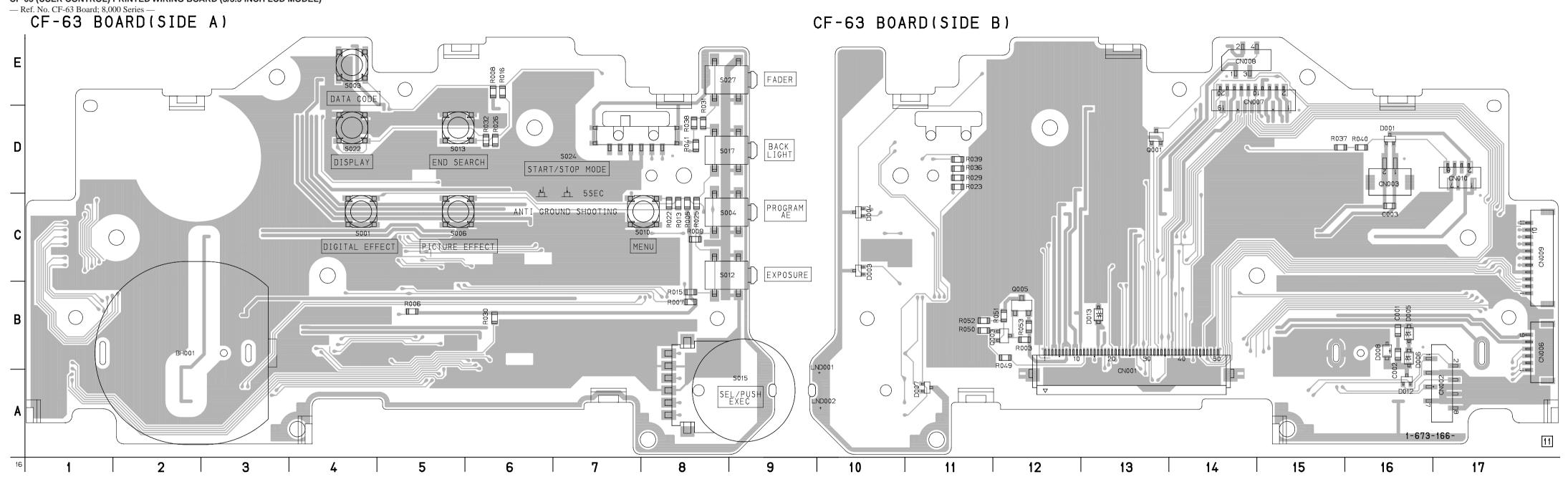
 S013
 D-5
 S013
 D-5

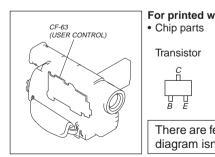
 R003
 B-12
 S015
 A-9

 R005
 C-8
 S017
 D-8

 R006
 B-5
 S022
 D-4

 R007
 B-8
 S024
 D-7
 CF-63 (USER CONTROL) PRINTED WIRING BOARD (3/3.5 INCH LCD MODEL)





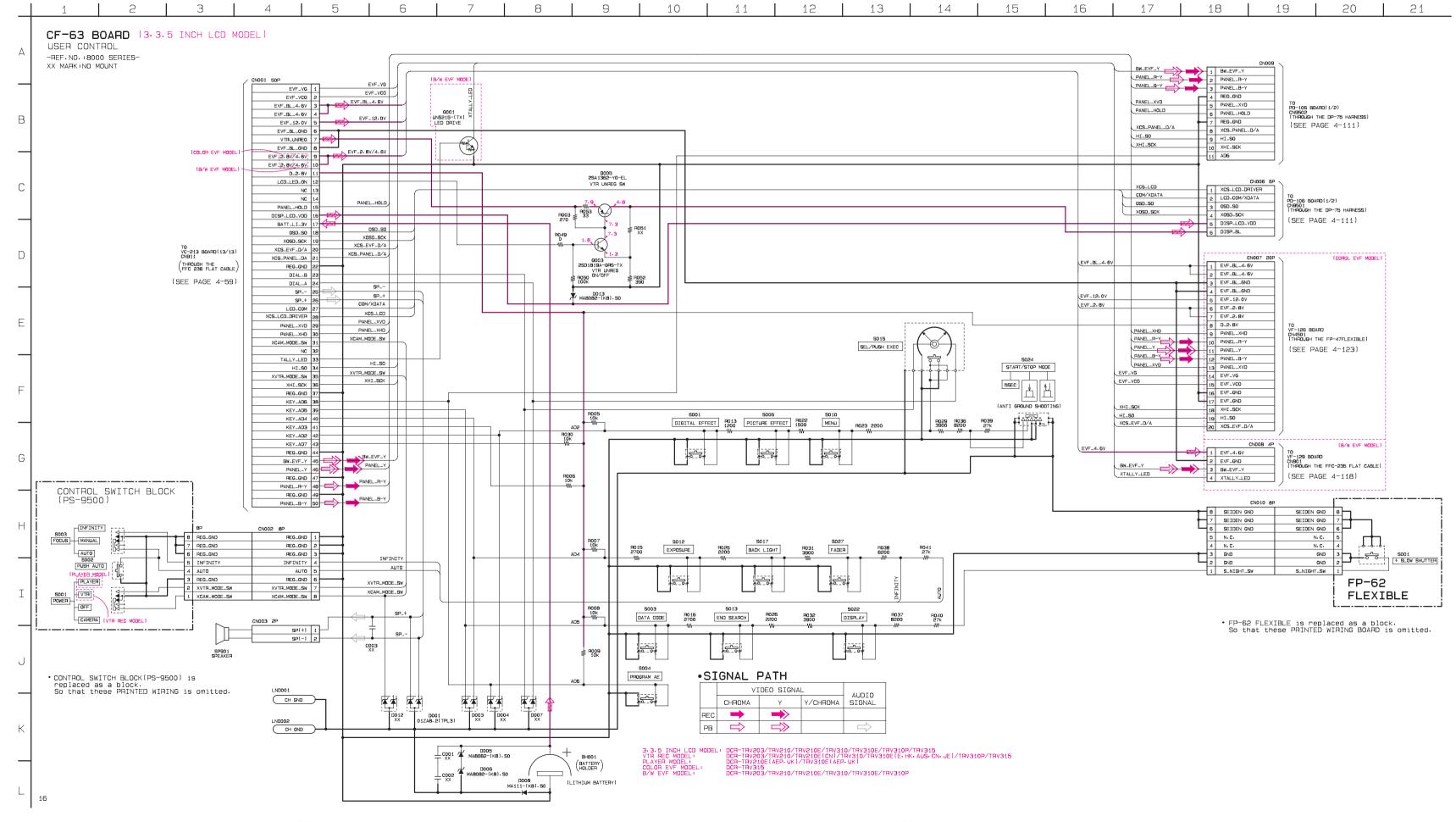
For printed wiring boards

Transistor Diode

There are few cases that the part printed on this diagram isn't mounted in this model.

**USER CONTROL** CF-63

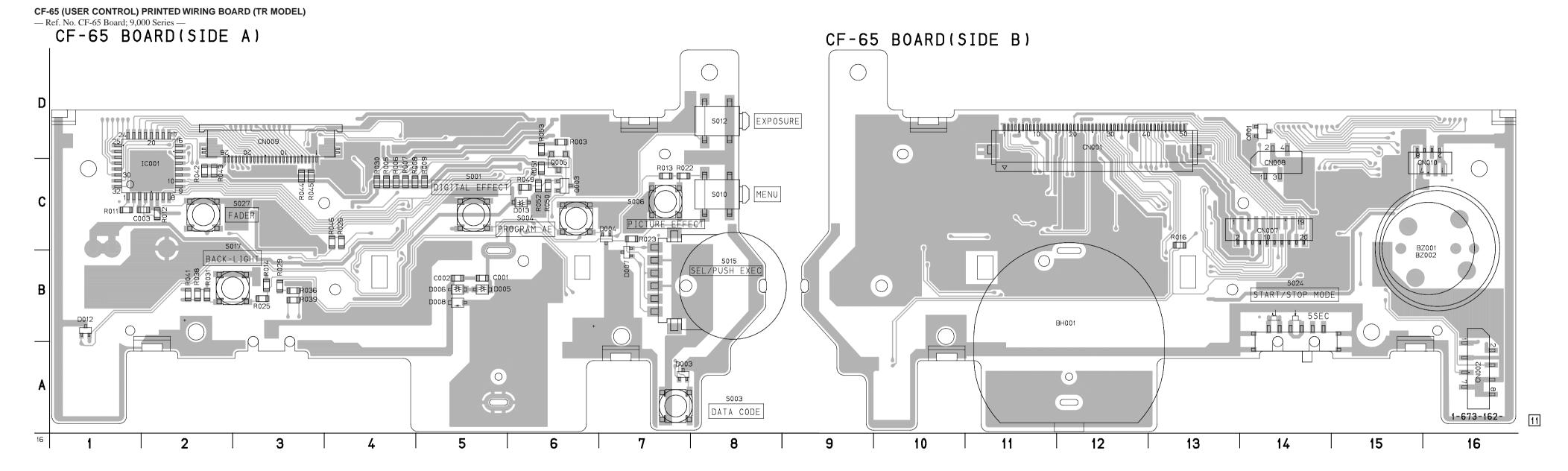
4-90 4-87 4-88 4-89



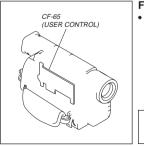
4-93

# DCR-TRV103/TRV110/TRV110E/TRV110P/TRV203/TRV210/ TRV210E/TRV310/TRV310E/TRV310P/TRV315 DCR-TR7000/TR7000E/TR7100E

CF-65	BOAR	RD	
BH001	B-11	R011 R012	C-1 C-2
BZ001 BZ002	C-16 B-16	R013 R014 R016	C-7 B-3 C-13
C001 C002 C003	B-5 B-5 C-2	R022 R023 R025 R026	C-7 C-7 B-3 C-4
CN001 CN002 CN007 CN008 CN009 CN010	D-12 A-16 C-14 C-14 D-3 C-16	R029 R030 R031 R036 R038 R039	B-3 C-4 B-2 B-3 B-2 B-3 B-2
D003 D004 D005 D006 D007 D008 D012 D013	A-7 C-7 B-5 B-5 B-7 B-5 B-1 C-6	R041 R042 R043 R044 R045 R046 R049 R050 R052 R053	C-2 C-3 C-3 C-4 C-6 C-6 C-6 D-6
Q001 Q003 Q005	C-2 D-14 C-6 C-6	S001 S003 S004 S006	C-5 A-7 C-6 C-7
R003 R005 R006 R007 R008 R009	D-6 C-4 C-4 C-4 C-4 C-5	S010 S012 S015 S017 S024 S027	C-7 D-8 B-8 B-2 B-14 C-2



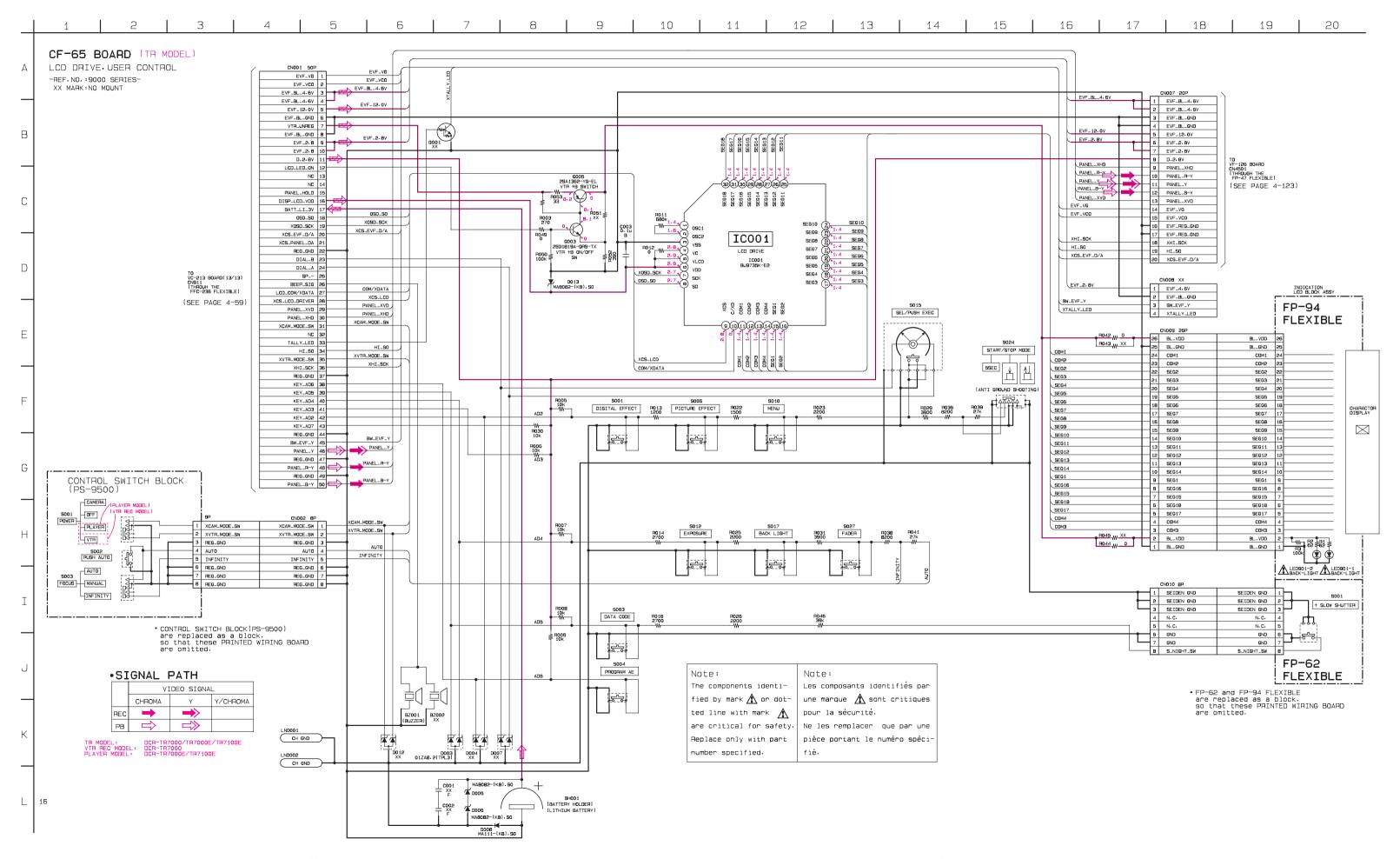
4-98



For printed wiring boards Chip parts

There are few cases that the part printed on this diagram isn't mounted in this model.

**USER CONTROL** 4-95 4-97 4-96 CF-65



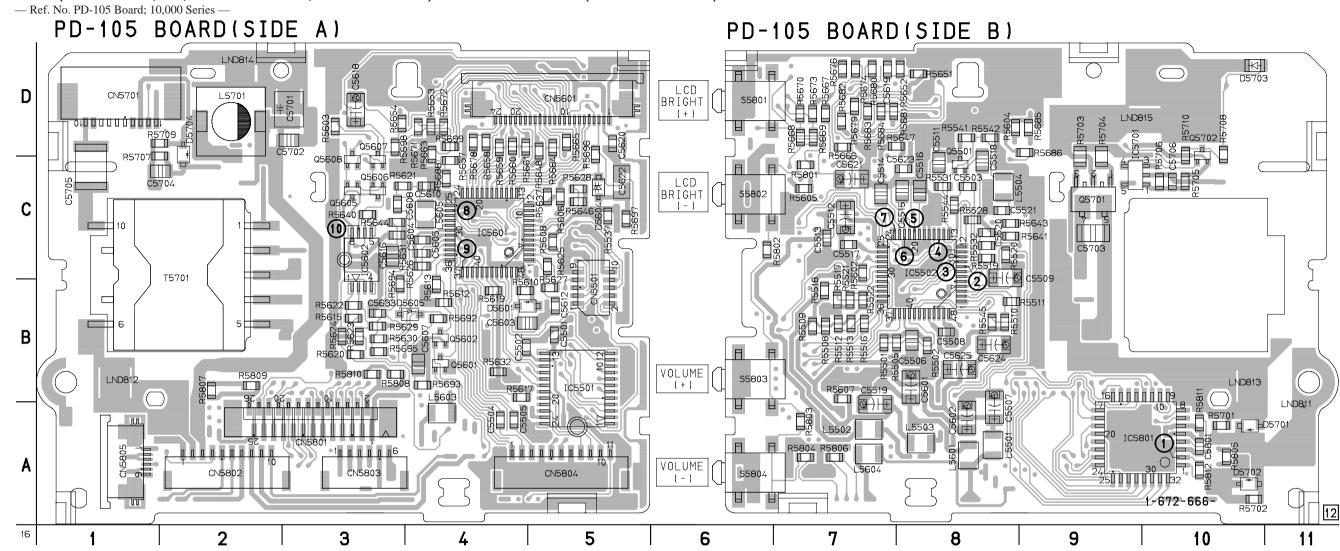
#### PD-105 BOARD C5502 B-4 L5502 A-7 R5643 D-5 C5503 C-8 L5503 A-8 R5644 C-3 C5504 A-4 L5504 C-8 R5646 C-5 L5601 A-8 L5603 A-4 R5647 D-7 C5505 A-4 C5506 B-8 R5648 C-8 L5604 A-7 C5507 A-8 R5651 D-8 C5508 B-8 L5605 C-4 R5652 D-8 C5509 B-8 L5701 D-2 R5653 D-4 C5511 C-8 R5654 D-3 Q5501 C-8 Q5601 B-4 Q5602 B-4 C5512 C-7 R5657 C-4 C5513 C-7 R5658 D-4 C5514 C-7 R5659 D-4 Q5605 C-3 C5515 C-8 R5660 D-4 Q5606 C-3 R5661 D-4 C5517 C-7 Q5607 C-3 R5663 C-4 C5518 C-8 Q5608 C-3 R5664 D-5 O5701 C-9 C5519 A-7 R5665 D-5 Q5702 C-10 C5520 C-8 R5666 D-7 R5667 D-7 C5521 C-8 R5501 B-7 C5601 B-8 R5668 D-7 R5502 B-8 R5669 D-7 R5506 B-8 R5670 D-7 C5604 C-3 R5508 B-7 R5671 D-4 C5605 C-4 C5607 B-4 R5509 B-7 R5672 D-4 R5510 B-8 R5674 D-7 R5511 B-8 R5676 D-7 C5608 C-3 R5512 B-7 R5678 D-4 C5610 C-4 R5513 B-7 R5679 D-7 C5616 C-3 R5516 B-7 R5680 D-7 C5618 D-3 R5517 B-7 R5681 D-7 R5518 B-7 C5619 D-7 R5682 D-7 R5519 C-8 C5620 D-5 R5684 D-7 R5520 C-8 R5685 D-9 C5621 C-7 R5521 B-7 R5686 D-9 C5622 R5522 B-7 R5688 C-4 C5624 B-8 R5528 C-8 R5692 B-4 R5531 C-8 R5532 C-8 C5625 B-8 R5694 B-3 R5695 B-3 C5633 B-3 R5537 C-5 C5701 D-3 R5696 D-5 R5541 D-8 R5697 C-5 C5702 D-3 C5703 C-9 R5542 D-8 R5698 D-3 C5704 C-2 R5544 C-8 R5699 D-4 C5705 C-1 R5545 B-8 R5701 A-10 R5602 C-7 C5706 C-10 R5702 A-10 C5812 A-10 R5603 D-3 R5703 C-9 R5704 C-9 R5604 D-8 CN5501 B-5 R5605 C-7 R5705 C-10 CN5601 D-5 R5606 C-5 R5706 C-10 CN5701 D-1 R5607 B-7 R5707 C-2 CN5801 A-3 R5608 C-5 R5710 C-10 R5610 B-4 CN5802 A-2 R5801 C-7 R5802 C-6 R5612 B-4 CN5803 A-3 R5613 B-4 CN5804 A-5 R5803 A-7 CN5805 A-1 R5615 B-3 R5804 A-7 R5805 A-10 D5601 B-4 R5619 B-4 R5806 A-7 D5604 C-5 R5620 B-3 R5807 B-2 D5605 B-4 R5621 C-3 R5808 B-3 R5622 B-3 D5614 C-5 R5810 B-3 R5623 B-3 R5811 A-10 D5701 A-10 R5624 B-3 R5812 A-10 D5702 A-10 R5626 C-4 D5703 D-10 D5704 C-2 R5627 B-5 S5801 D-6 R5628 C-5 S5802 C-6 IC5501 B-5 R5629 B-3 S5803 B-6 IC5502 C-8 R5630 B-3 S5804 A-6 IC5601 C-4 R5631 C-4 R5632 B-4 T5701 C-2 IC5602 C-3

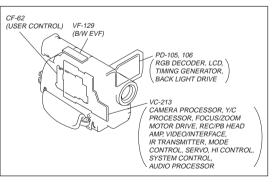
R5637 C-5

R5640 C-3

IC5801 A-9

#### PD-105 (RGB DECODER, LCD, TIMING GENERATOR, BACK LIGHT DRIVE) PRINTED WIRING BOARD (2.5 INCH LCD MODEL)





#### For printed wiring boards

- This board is four-layer print board. However, the patterns of layers two and three have not been included in the diagram.
- Chip parts

Transistor

C

B

B

E

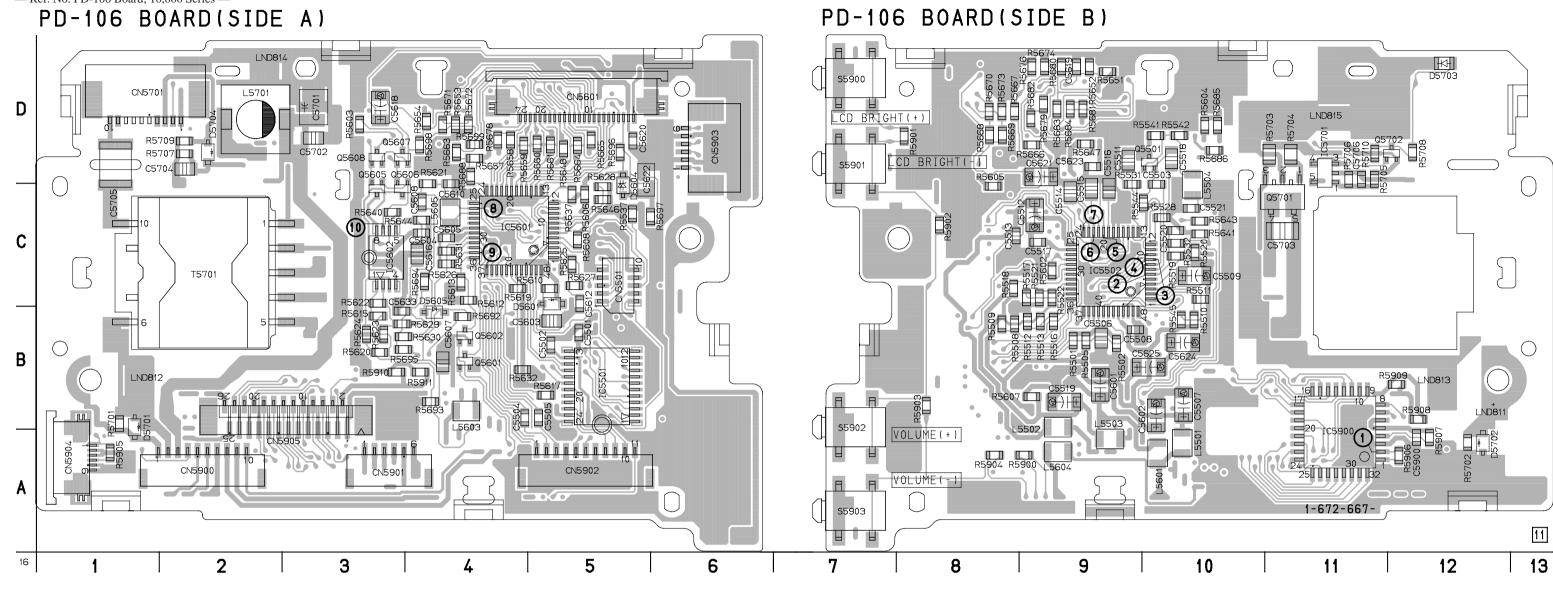
There are few cases that the part printed on this diagram isn't mounted in this model.

RGB DECODER, LCD, TIMING GEN.
PD-105

4-102 4-103

### PD-106 (RGB DECODER, LCD, TIMING GENERATOR, BACK LIGHT DRIVE) PRINTED WIRING BOARD (3/3.5 INCH LCD MODEL)

— Ref. No. PD-106 Board; 10,000 Series —

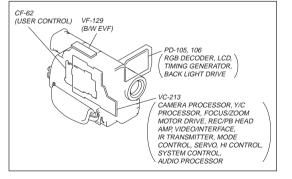


#### For printed wiring boards

- This board is four-layer print board. However, the patterns of layers two and three have not been included in the diagram.
- Chip parts

Transistor

There are few cases that the part printed on this diagram isn't mounted in this model.

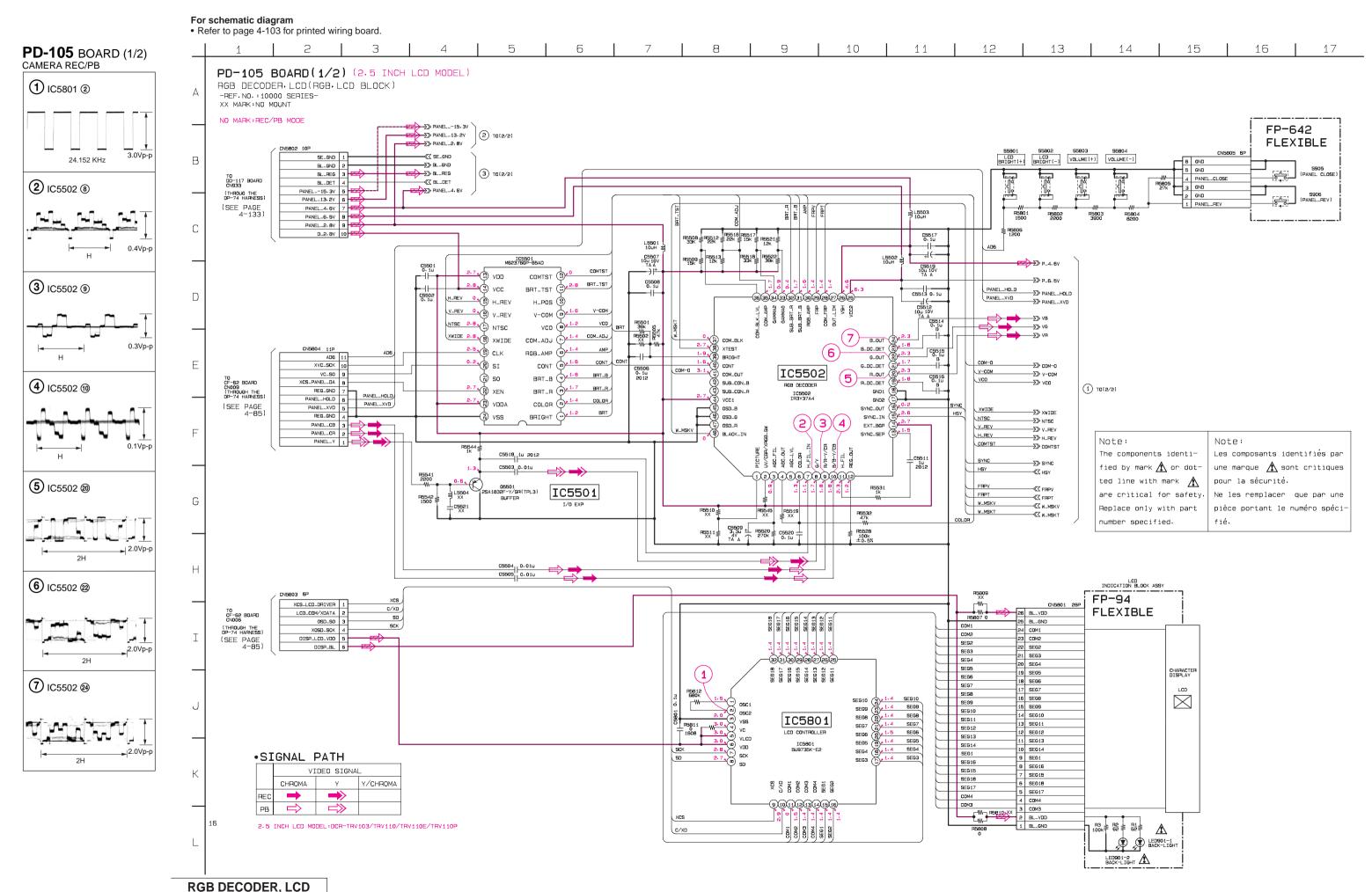


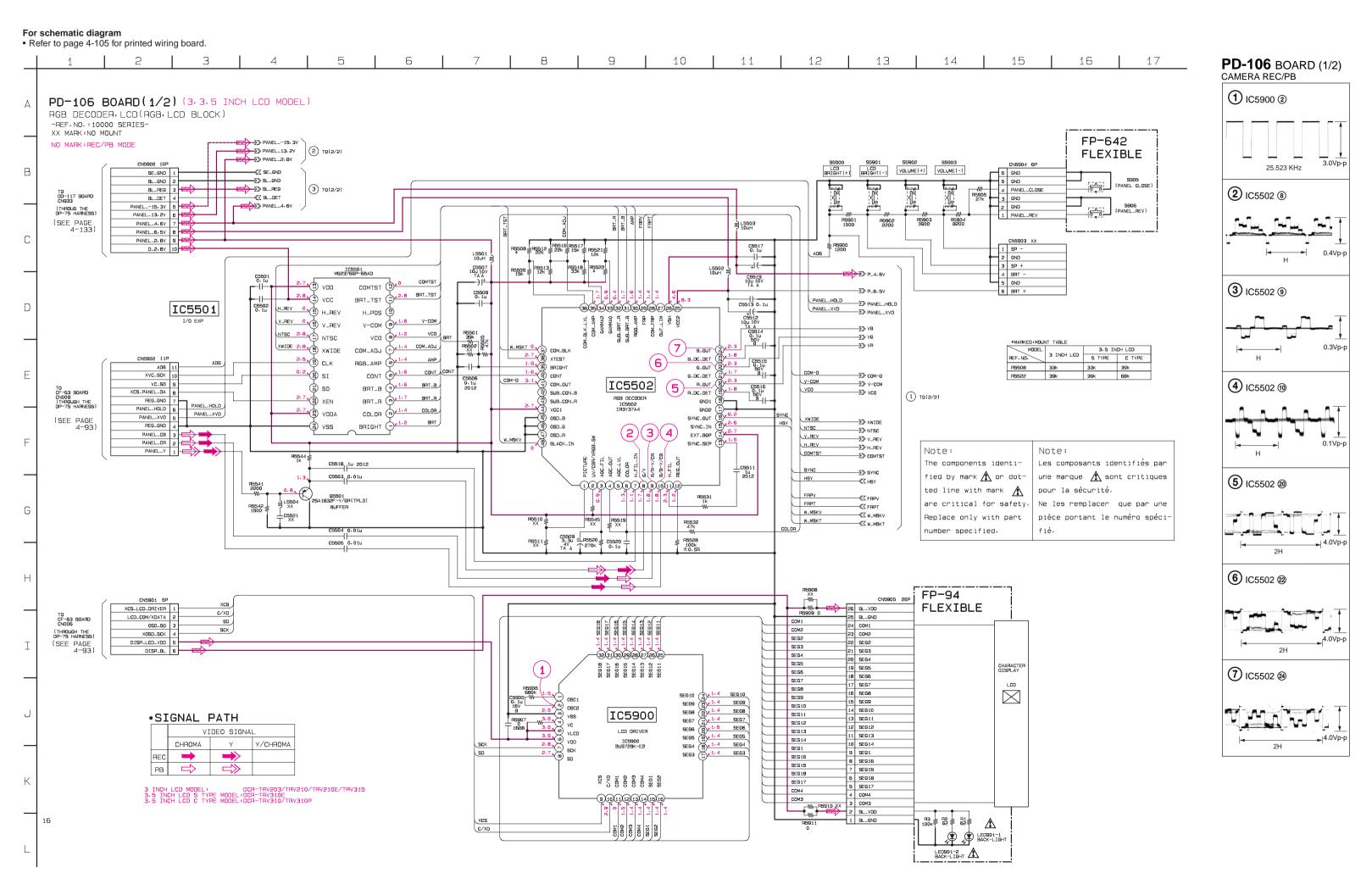
#### PD-106 BOARD

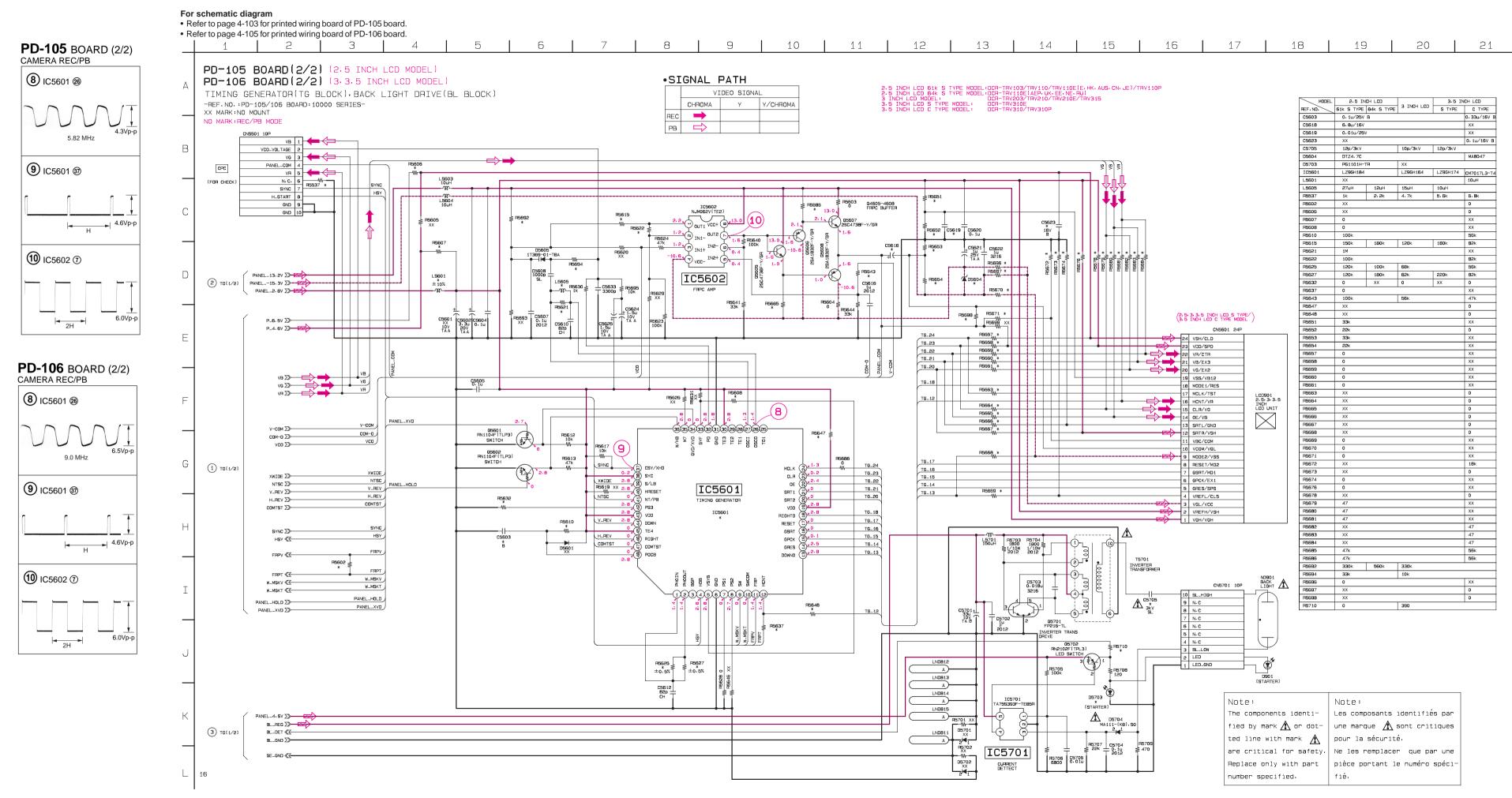
PD-10	6 BOA	RD			
C5501	B-5	L5503	A-9 I	R5644	C-4
C5501	B-5	L5504	C-10	R5646	C-5
C5502	C-10	L5601	A-10	R5647	D-9
C5504	B-4	L5603	B-4	R5651	D-9
C5505	B-5	L5604	A-9	R5652	D-9
C5506	B-9	L5605	C-4	R5653	D-4
C5507	B-10	L5701	D-2	R5654	D-4
C5508	B-9	L5906	A-12	R5657	D-4
C5509	C-10			R5658	D-4
C5511	D-9	Q5501	D-10	R5659	D-4
C5512	C-9	Q5601	B-4	R5660	D-5
C5513	C-8	Q5602	B-4	R5661	D-5
C5514	C-9	Q5605	C-3	R5663	D-4
C5515	C-9	Q5606	C-3	R5664	D-5
C5516	C-9	Q5607	D-3	R5665	D-5
C5517	C-9	Q5608	D-3	R5666	D-9
C5517	D-10	Q5701	C11	R5667	D-8
C5519	B-9	Q5701	D-12	R5668	D-8
C5520	C-10	Q3702	D-12	R5669	D-8
C5520	C-10	R5501	B-9	R5670	D-8
C5601	B-9	R5502	B-9	R5671	D-4
C5602	B-10	R5505	B-9	R5672	D-4
C5603	B-5	R5508	B-8	R5673	D-8
C5604	C-4	R5509	B-8	R5674	D-9
C5605	C-4	R5510	B-10	R5676	D-9
C5607	B-4	R5511	C-10	R5678	D-4
C5608	C-4	R5512	B-9	R5679	D-9
C5610	C-4	R5513	B-9	R5680	D-9
C5612	B-5	R5516	B-9	R5681	D-9
C5616	C-4	R5517	C-9	R5682	D-9
C5618	D-3	R5518	C-8	R5683	D-9
C5619	D-9	R5519	C-10	R5684	D-9
C5620	D-5	R5520	C-10	R5685	D-10
C5621	D-9	R5521	C-9	R5686	D-10
C5622	D-5	R5522	C-9	R5688	D-4
C5623	D-9	R5523	C-10	R5692	B-4
C5624	B-10	R5531	C-9	R5694	C-4
C5625	B-10	R5532	C-10	R5695	B-3
C5633	B-3	R5537	C-5	R5696	D-5
C5701	D-3	R5541	D-10	R5697	C-6
C5702	D-3	R5542	D-10	R5698	D-4
C5703	C-11	R5544	C-10	R5699	D-4
C5704	D-2	R5545	B-10	R5701	B-1
C5705	D-1	R5602	C-9	R5702	A-12
C5706	D-11	R5603	D-3	R5703	D-11
C5900	A-12	R5604	D-10	R5704	D-11
		R5605	C-8	R5705	D-11
CN5501	C-5	R5606	C-5	R5706	D-11
CN5601	D-5	R5607	B-9	R5707	D-2
CN5701	D-1	R5608	C-5	R5709	D-2
CN5900		R5610	C-5	R5710	D-11
CN5901		R5612	C-4	R5900	A-9
CN5902	-	R5613	C-4	R5901	D-8
CN5903		R5615	B-3	R5902	C-8
CN5904		R5617	B-5	R5903	B-8
CN5905		R5619	C-4	R5904	A-8
CN3703	D-Z	R5620	B-3	R5905	A-0 A-1
D5601	B-5	R5621	C-4	R5905	A-1 A-12
D5614	C-5	R5622	B-3	R5908	B-12
D5701	A-1	R5623	B-3	R5909	B-12
	A-12		B-3 B-3	R5909	B-12
D5702		R5624	-		Б-3 В-4
D5703	D-12	R5625	C-5	R5911	D-4
D5704	D-2	R5626	C-4	S5900	D-7
IC5501	B-5	R5627	C-5 C-5	S5900 S5901	D-7 D-7
		R5628			
IC5502	C-9	R5629	B-3	S5902	B-7
IC5601	C-4	R5630	B-3	S5903	A-7
IC5602	C-3	R5631	C-4	TE / 40	C 10
IC5701	D-11	R5632	B-4	T5643	C-10
IC5900	A-11	R5637	C-5	T5701	C-2
LEE01	۸ 10	R5640	C-3		
L5501 L5502	A-10 A-9	R5641 R5643	C-10 D-5		
L0002	rt-7	N3043	ט-ט ן		

### DCR-TRV103/TRV110/TRV110E/TRV110P/TRV203/TRV210/ TRV210E/TRV310/TRV310E/TRV310P/TRV315 DCR-TR7000/TR7000E/TR7100E

4-109





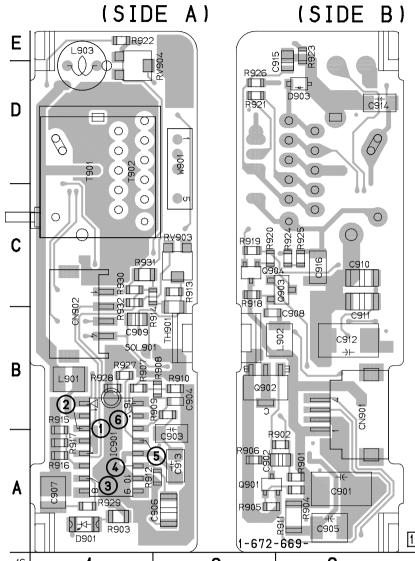


4-115

#### VF-129 (B/W EVF) PRINTED WIRING BOARD (B/W EVF MODEL)

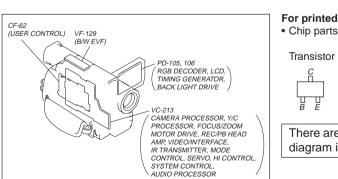
— Ref. No. VF-129 Board; 6,000 Series —

VF-129 BOARD VF-129 BOARD



#### VF-129 BOARD

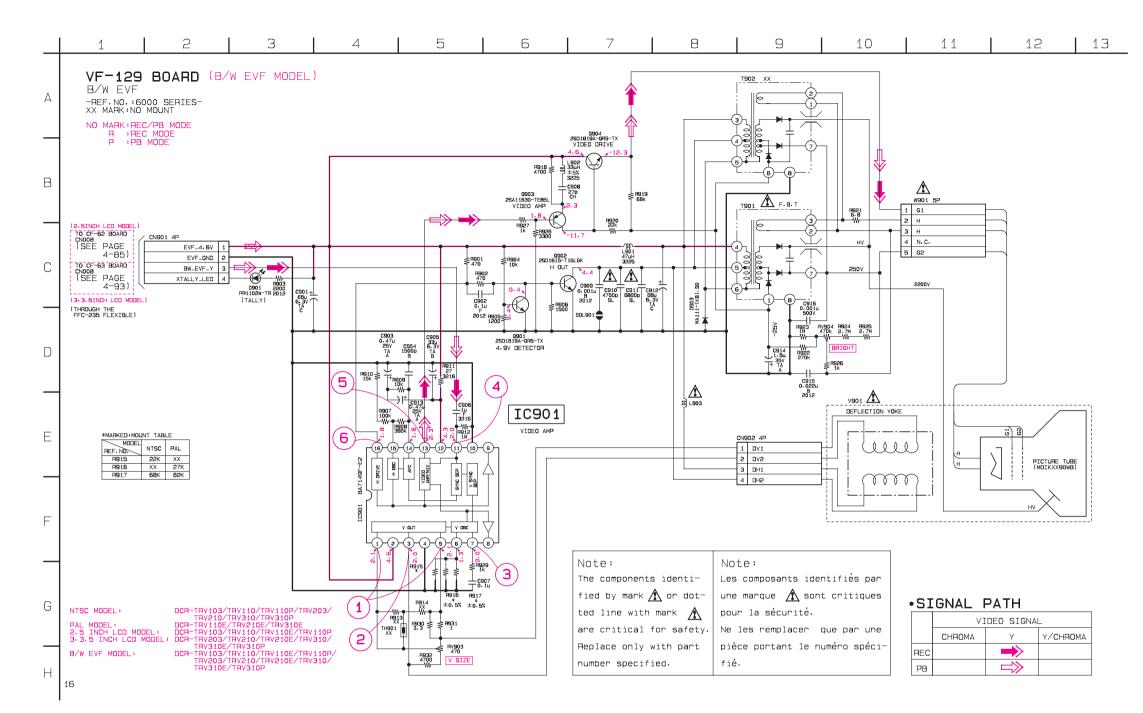
	-0 -0,,		
901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916	A-3 A-2 B-2 A-3 A-2 C-2 C-3 C-3 C-3 B-3 C-3 E-3 C-3	R905 R906 R907 R908 R909 R910 R911 R912 R913 R914 R915 R916 R917 R918 R919 R920	A-2 A-2 B-1 B-2 B-2 A-3 A-2 C-2 C-2 B-1 A-1 C-2 C-2 C-2
N901 N902	B-3 B-1	R921 R922 R923 R924	E-1 E-3 C-3
901 903	A-1 D-3	R925 R926 R927	C-3 D-2 B-1
901	A-1	R928 R929	B-1 A-1
901 902 903	B-1 B-3 D-1	R930 R931 R932	C-1 C-1 C-1
901 902 903	A-2 B-2 C-3	RV903 RV904	C-2 D-1
904	C-2	T901 T902	D-1 D-1
901 902 903	A-3 A-3 A-1	TH901	B-2
904	A-3	W901	D-2



### For printed wiring boards

Chip parts

There are few cases that the part printed on this diagram isn't mounted in this model.



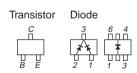
VF-129 BOARD CAMERA REC/PB (1) IC901 (1),(5) 16.7 msec **2** IC901 ③ 16.7 msec 3 IC901 ⑦ 16.7 msec **4**) IC901 (1) (5) IC901 (3) **6** IC901 **1** 2.4Vp-p

### DCR-TRV103/TRV110/TRV110E/TRV110P/TRV203/TRV210/ TRV210E/TRV310/TRV310E/TRV310P/TRV315 DCR-TR7000/TR7000E/TR7100E

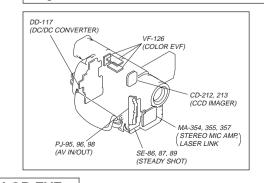
#### VF-126 BOARD D4601 D-8 D4602 D-1 D4801 E-4 C4502 A-2 R4525 B-8 C4503 A-8 R4526 B-8 C4504 A-8 C4505 A-8 C4506 A-8 D4802 F-6 R4528 A-7 R4602 D-8 IC4501 A-8 R4604 D-8 IC4501 A-6 IC4502 A-1 IC4601 D-1 C4507 A-8 R4605 D-8 C4508 B-8 R4606 D-1 C4509 B-7 IC4602 D-7 R4607 D-8 C4510 B-8 C4511 B-8 C4512 B-1 C4513 B-2 C4514 B-7 IC4603 D-8 R4608 D-2 R4609 D-8 L4501 A-2 L4502 B-7 L4601 C-7 L4602 C-1 R4610 D-8 R4611 D-1 R4612 D-1 C4515 A-7 L4603 D-8 L4801 E-6 L4802 E-5 R4614 D-8 C4517 B-8 R4615 D-8 C4601 D-8 C4602 C-2 C4603 D-8 R4616 D-1 R4617 D-2 ND4801 E-4 R4618 D-2 C4604 D-8 R4619 D-7 Q4501 A-1 Q4601 C-2 Q4602 C-1 Q4603 C-2 Q4604 C-1 Q4605 D-1 C4605 D-2 R4620 E-1 C4606 D-1 R4621 D-2 C4607 D-1 R4622 D-2 C4608 D-8 C4609 D-8 R4623 D-2 R4624 D-2 C4610 C-7 R4625 D-2 C4611 D-8 Q4801 F-6 R4626 D-2 R4501 A-1 C4613 D-1 R4629 D-2 R4502 A-1 R4503 A-8 R4504 A-7 R4630 D-1 C4614 D-1 C4615 D-1 C4616 D-1 R4631 D-1 R4632 D-1 C4617 D-2 R4505 A-7 R4634 D-1 C4618 D-1 R4506 A-7 R4635 D-8 R4507 A-7 R4636 D-8 R4508 A-7 R4509 A-9 R4510 A-7 C4620 D-2 R4637 D-8 C4621 D-7 C4622 D-2 C4623 D-2 R4638 D-1 R4638 D-8 R4511 A-7 R4639 D-8 R4801 E-6 C4624 D-7 R4512 A-8 C4625 D-7 R4514 A-7 R4515 A-7 R4516 A-7 R4517 A-7 T4801 F-5 C4801 E-6 C4802 E-5 C4803 E-5 C4804 E-6 R4518 B-7 R4519 B-7 R4520 A-7 R4521 B-7 R4522 A-7 CN4602 D-2

#### For printed wiring boards

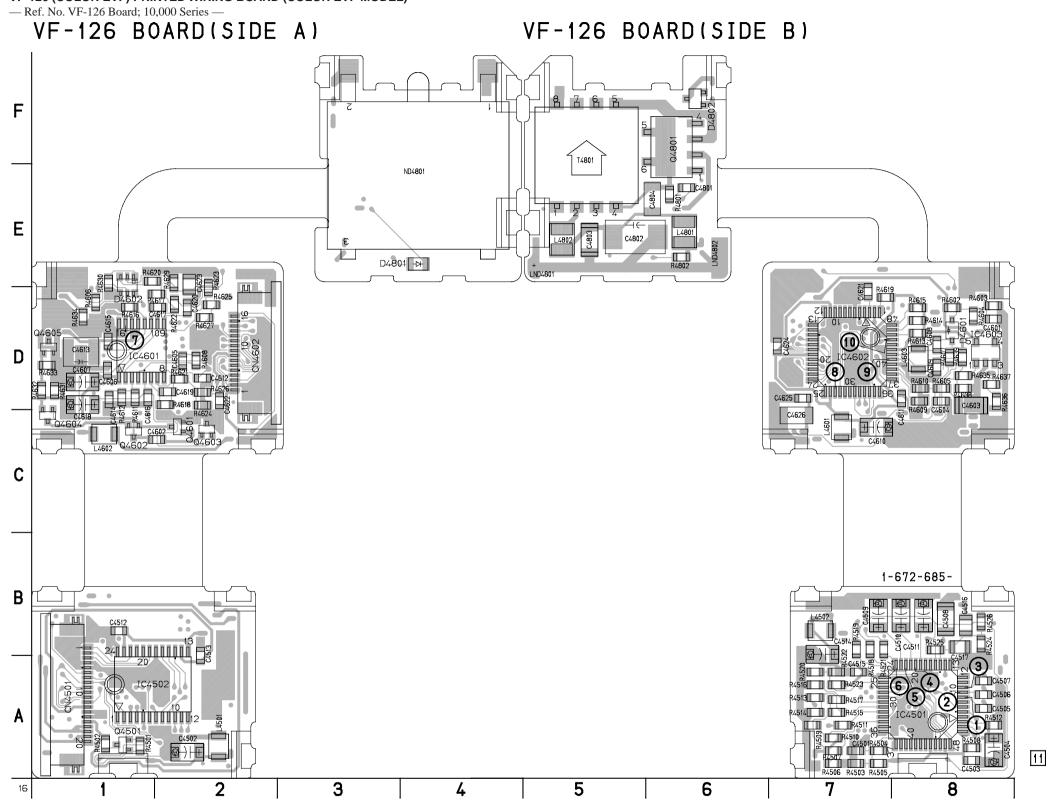
- This board is four-layer print board. However, the patterns of layers two and three have not been included in the diagram.
- Chip parts



There are few cases that the part printed on this diagram isn't mounted in this model.

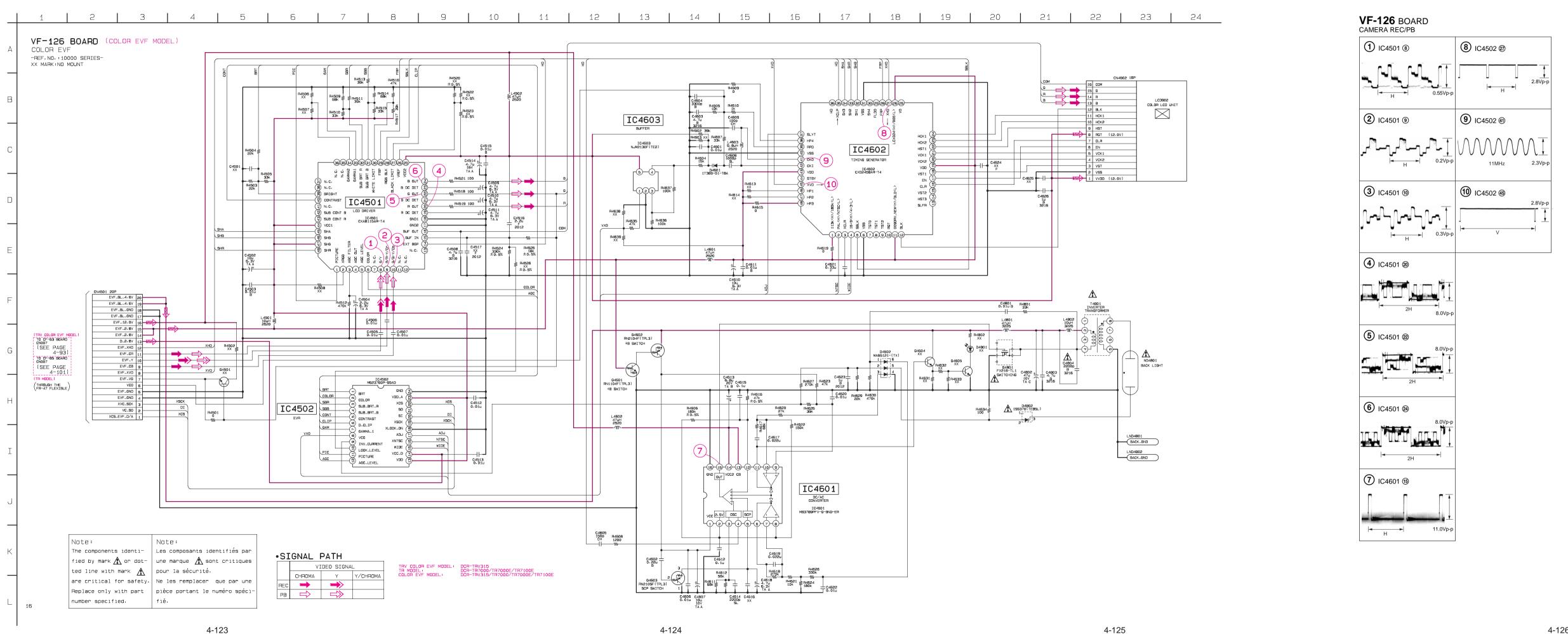


#### VF-126 (COLOR EVF) PRINTED WIRING BOARD (COLOR EVF MODEL)



COLOR EVF VF-126

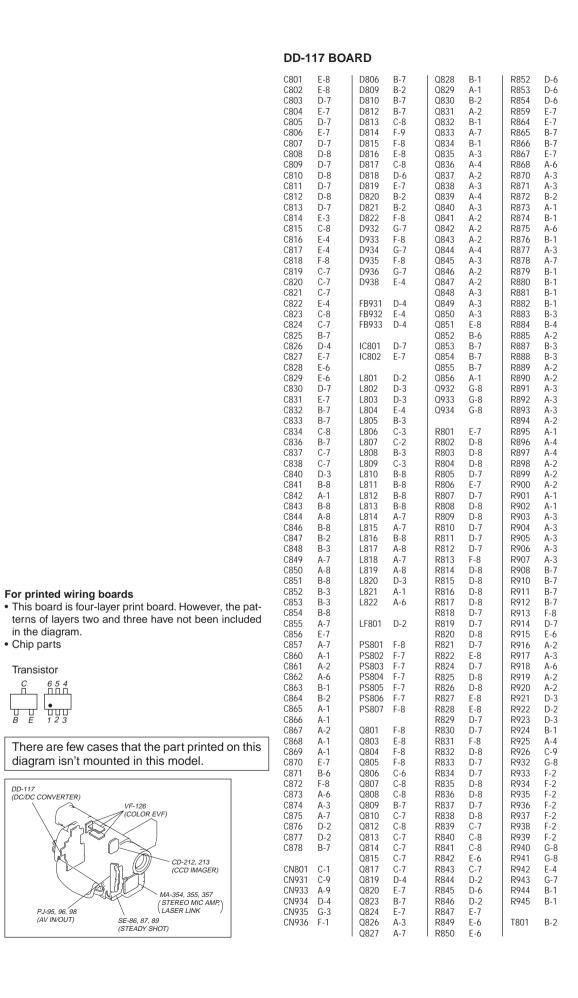
4-121 4-122

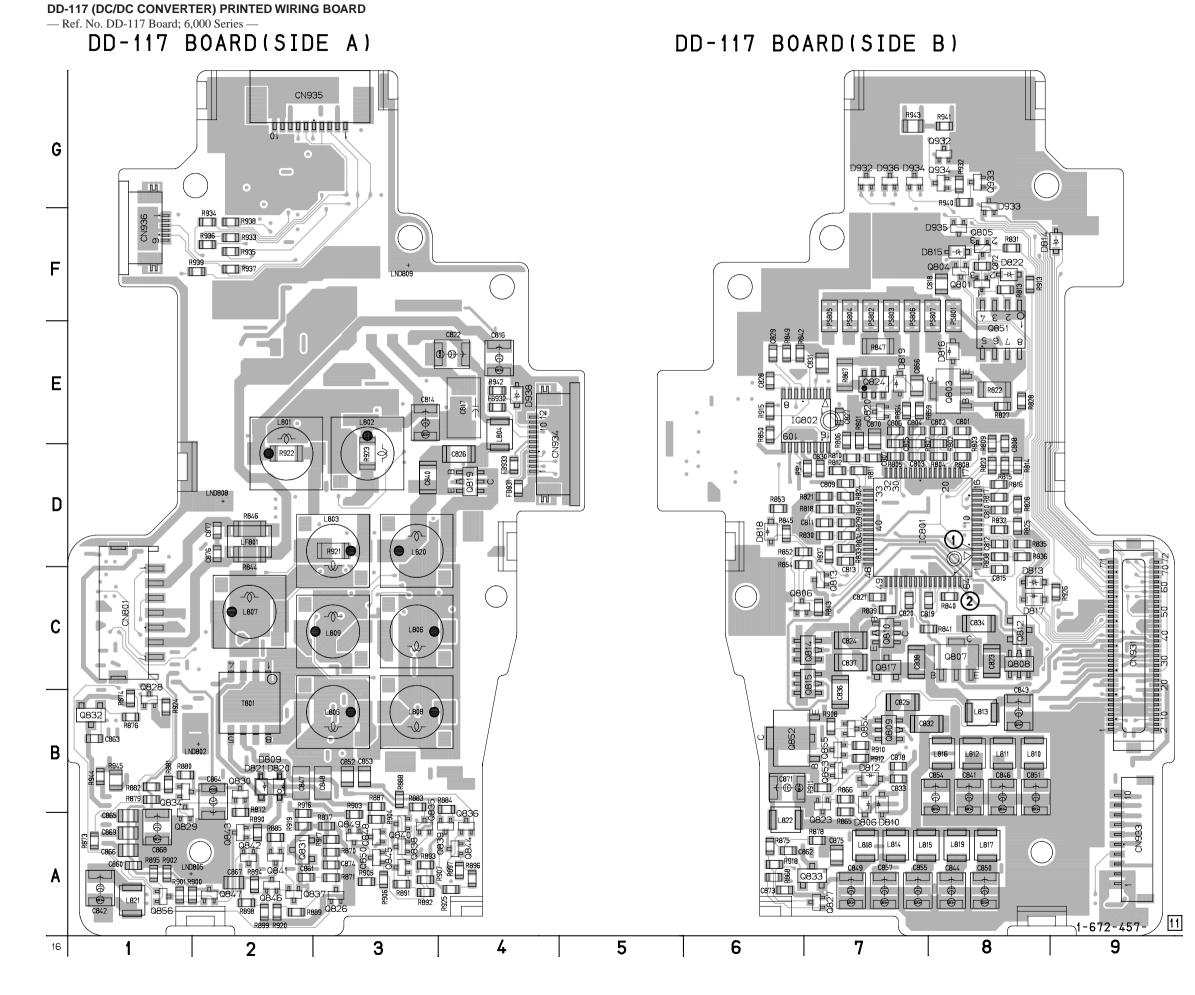


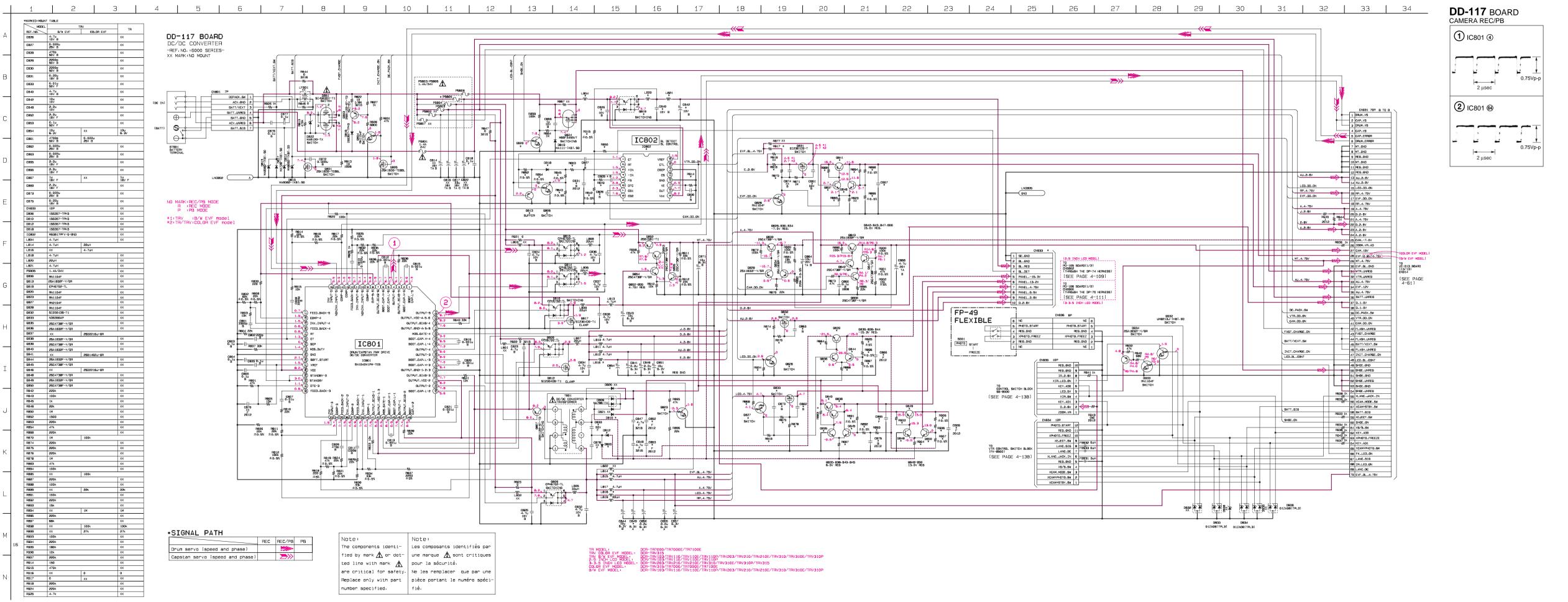
For printed wiring boards

in the diagram. Chip parts

4-128



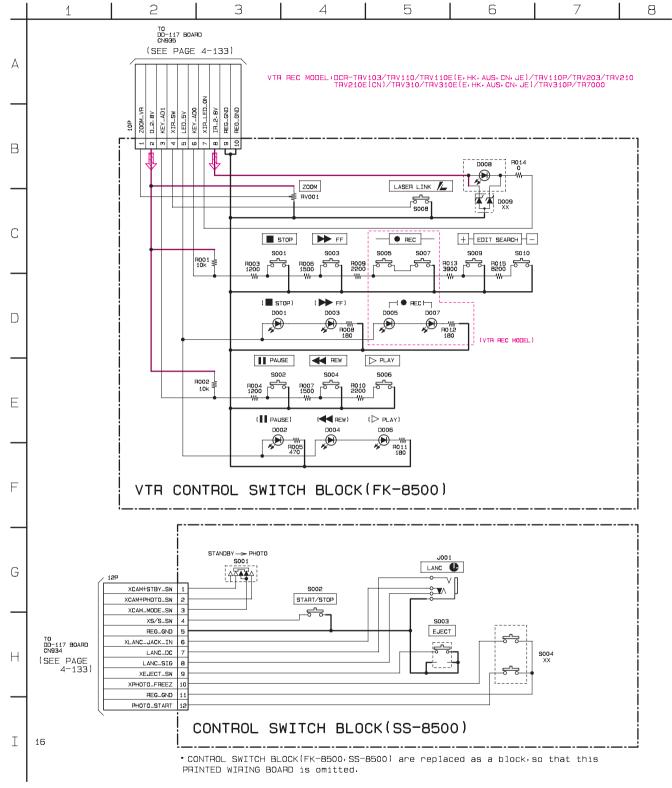




4-132

4-134

### DCR-TRV103/TRV110/TRV110E/TRV110P/TRV203/TRV210/ TRV210E/TRV310/TRV310E/TRV310P/TRV315 DCR-TR7000/TR7000E/TR7100E



CONTROL SWITCH BLOCK FK-8500/SS-8500

4-138E

## SECTION 5 ADJUSTMENTS

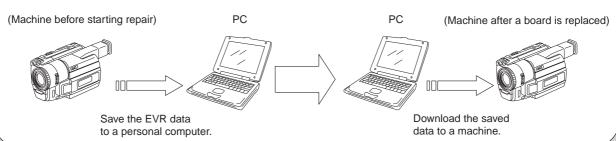
#### 1. Before starting adjustment

#### **EVR Data Re-writing Procedure When Replacing Board**

The data that is stored in the repair board, is not necessarily correct. Perform either procedure 1 or procedure 2 or procedure 3 when replacing board.

#### **Procedure 1**

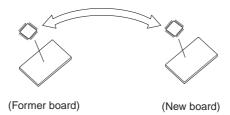
Save the EVR data of the machine in which a board is going to be replaced. Download the saved data after a board is replaced.



#### **Procedure 2**

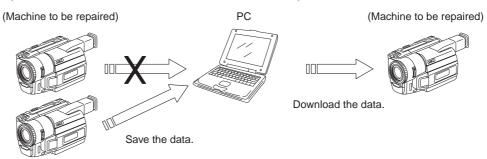
Remove the EEPROM from the board of the machine that is going to be repaired. Install the removed EEPROM to the replaced board.

Remove the EEPROM and install it.



#### **Procedure 3**

When the data cannot be saved due to defective EEPROM, or when the EEPROM cannot be removed or installed, save the data from the same model of the same destination, and download it.



(The same model of the same destination)

After the EVR data is saved and downloaded, check the respective items of the EVR data. (Refer to page 5-3 for the items to be checked.)

#### 1-1. Adjusting items when replacing main parts and boards.

• Adjusting items when replacing main parts
When replacing main parts, adjust the items indicated by • in the following table.

	<i>z</i> 1 , 3													Re	pla	ced															
			Bl	ock	rep	lace	eme	nt	$\Box$						_	M	oun	ted	par	ts r	Ĥ		mer	ıt							
Adjustment Section	Adjustment	Lens device	Mechanism deck	Color EVF block (*1) (LCD panel)	B/W EVF block V901 (*2) (Picture tube)	LCD block ND901 (*3) (Fluorescent tube)	LCD block LCD901 (*3) (LCD panel)	Mechanism deck M901 (Drum assembly)	Mechanism deck M902 (Capstan motor)	CD-212/213 board IC1401/2401 (CCD imager)	PD-105/106 board IC5502 (*3) (RGB decoder)	PD-105/106 board IC5601 (*3)(Timing generator)	VF-126 board IC4501 (*1) (RGB decoder)	VF-126 board IC4602 (*1) (Timing generator)	VF-126 board IC4601 (*1) (Backlight driver)	VF-126 board ND4801 (*1) (Fluorescent tube)	VF-129 board IC901 (*2) (CRT driver)	VF-129 board T901 (*2) (FBT)	VC-213 board IC502 (S/H, AGC)	VC-213 board IC102 (REC/PB AMP)	VC-213 board IC103 (EQ, A/D CONV., PLL)	VC-213 board IC501, X501 (Timing generator)	VC-213 board IC643 (LINE OUT AMP)	VC-213 board IC351 (Video interface)	VC-213 board IC254, X251 (X'tal OSC.)	VC-213 board IC601 (Base band input)	VC-213 board IC251 (8mm Y/C process)	VC-213 board IC201 (8mm PB RF AMP)	VC-213 board IC644 (IR transmitter)	VC-213 board IC760 (8mm AFM process)	
Initialization	Initialization of C page data	7	2	Ö	B	ŭ	ŭ	Σ	Σ	C	Ы	P	Λ	>	>	>	>	>	>	>	>	>	>	>	>	>	>	>	>	>	
of C, D, E, F	Initialization of C page data  Initialization of D page data	$\vdash$						$\dashv$	$\dashv$		Н			Н			$\vdash$			-								$\dashv$			
page data	Initialization of E, F page data	$\vdash$						$\neg$			Н																				
	HALL adj.	•																													
	Flange back adj.	•								•																					
_	AGC gain calibration adj.	_								•									•												
Camera	Color reproduction adj.							$\dashv$		•									•				_								
	IRIS IN/OUT adj.	•			_			_		•	$\square$			$\square$		-			•	_	$\square$			_				$\square$		$\vdash$	
	Auto white balance standard data input  Auto white balance adj.	$\vdash$						$\dashv$	$\vdash$	•	$\vdash\vdash$			$\vdash \vdash$		$\vdash \vdash$				-	$\vdash$			-		$\vdash$		$\square$		$\vdash$	
	Color EVF initial data input	⊢	$\vdash$		$\vdash$			$\dashv$	$\dashv$	_	Н		$\vdash$	Н	_	$\dashv$		$\dashv$	-	-	$\dashv$		$\dashv$	-	$\vdash$	$\vdash$	$\dashv$	$\dashv$			
-	VCO adj.	⊢						$\dashv$	$\dashv$		$\vdash$								$\dashv$				$\dashv$								
G 1 FY F	Bright adj.	$\vdash$						$\dashv$			$\vdash$		•										$\dashv$	•							
Color EVF	Contrast adj.	$\vdash$						$\neg$			Н		•											•							
(*1)	Backlight consumption current adj.										П				•	•															
	White balance adj.			•									•		•	•															
	Centering adj.				•												$\overline{}$	•													
	Focus adj.				•													•													
B/W EVF	Aberration adj.	⊢			•			$\dashv$	-		$\square$						_	•	$\dashv$	_			$\dashv$				_				
(*2)	Horizontal amplitude adj.  Vertical amplitude adj.	⊢	_		•			$\dashv$	-		$\vdash$					-		•	$\dashv$	-			$\dashv$					-			
	Brightness adj.	$\vdash$			•			$\dashv$	-		$\vdash$				_			•	$\dashv$	-			$\dashv$					-			
	LCD initial data input	$\vdash$			<u> </u>			$\dashv$			Н						Ť		$\dashv$												
	VCO adj.											•																			
	D range adj.										•													•							
LCD	Bright adj.										•													•							
(*3)	Contrast adj.																							•							
(-3)	V-COM level adj.										•																				
	Color adj.	<u> </u>						$\perp$			•																				
ļ.	V-COM adj.	L					•	$\dashv$			•								_	_			_								
System control	White balance adj.  Battery end adj.	⊢				•		$\dashv$	$\dashv$		•		$\vdash$					-	$\dashv$	_	-		$\dashv$	_			-				
System control	Switching position adj.	⊢	•					•	$\dashv$		Н		$\vdash$	$\vdash$	_	$\vdash$		$\dashv$	$\dashv$	-	$\dashv$		$\dashv$	-		-	$\dashv$				
	AGC center level adj.	$\vdash$	_						-		$\vdash$								$\dashv$	•			$\dashv$								
C OPE	APC & AEQ adj.	$\vdash$						$\dashv$			$\vdash$									•			$\dashv$								
Servo & RF	PLL f <sub>0</sub> & LPF f <sub>0</sub> final adj.																			•	•										
	Hi8/standard8 switching position adj.		•					•																							
	CAP FG duty adj.		•																												
	27MHz/36MHz origin oscillation adj.																					•									
	AOI chroma BPF f <sub>0</sub> adj.	L			_				Ц		Ш			Ш		$\square$	Щ				Ш		•					Ш		Ш	
	S VIDEO OUT Y level adj.	$\vdash$	_					_			Ш			Ш									$\overline{}$	•							
	S VIDEO OUT Cr, Cb level adj. Hi8/standard8 14MHz origin oscillation adj.	$\vdash$	_		-			$\dashv$	$\sqcup$		$\vdash \vdash$			$\vdash \vdash$			$\square$			_			•	•	•		_	$\square$		Н	
Video	BBI PLL f <sub>0</sub> adj.	$\vdash$	-					$\dashv$	$\vdash$		$\vdash$			$\vdash$						-				$\dashv$		•	-	$\vdash$		$\vdash$	
	Hi8/standard8 Y OUT level adj.	$\vdash$						$\dashv$	$\vdash$		$\vdash \vdash$			$\vdash$		$\vdash$				-	$\vdash$			$\dashv$		-	•	$\vdash$		$\vdash$	
	Hi8/standard8 C OUT level adj.	$\vdash$						$\dashv$	$\dashv$		$\vdash$		H	Н		$\vdash$				-							•	$\dashv$			
	Hi8/standard8 AFC f <sub>0</sub> adj.	$\vdash$						$\dashv$	$\dashv$		$\vdash$			$\vdash$						-	$\vdash$			$\dashv$		$\forall$	•	$\dashv$		Н	
	Hi8/standard8 RP filter f <sub>0</sub> adj.	Г									П			П														•			
	IR video carrier frequency adj.																												•		
IR	IR video deviation adj.																												•		
	IR audio deviation adj.	$ldsymbol{ldsymbol{ldsymbol{eta}}}$		L		$\Box$	$\Box$	$\Box$	Ш		Ш		$\Box$	Ш		$\Box$	Ш		_]		Ш		$\Box$					Ш	•	Ĺ	
				1	1	1 1	1	I	. I		ıI	1 1		1 1		i I		- 1	- 1		ıl		- 1		1 1						
A 11	Hi8/standard8 AFM BPF fo adj.	_			-				$\dashv$	-	$\vdash$	$\vdash$	$\vdash$	$\vdash$	-	$\rightarrow$	-	-	-	_	-	_	_	-	$\vdash$	_	_				
Audio	Hi8/standard8 AFM 1.5MHz deviation adj.																													•	
Audio Mechanism			•					•																						•	

#### • Adjusting items when replacing a board or EEPROM

When replacing a board or EEPROM, adjust the items indicated by ● in the following table.

		_				1	_	
		P			ace	d p	arts	
		'	ard					
		rej	olac	_		_		
				(*3)	(*1)	(*2)		
		(ELE	(EE)	(COMPLETE) (*3)	(COMPLETE) (*1)	(COMPLETE) (*2)	Æ.	Ð
		(COMPLETE)	(COMPLETE)	IPLE	IPLE	IPLE	(EEPROM)	(EEPROM)
Adjustment	Adjustment	SON	CON	CON	CON	CON	EEP	EEP
Section	3	ا	٤	٤	=	$ $ $\leq$	(I	E
							102	VC-213 board IC901
		ard		ard			IC402	52
		9 bo	ard	5 box	urd	ırd	ard	ard
		SE-86/87/89 board	VC-213 board	PD-105/106 board	VF-126 board	VF-129 board	VC-213 board	3 bo
		/98-	-21	-105	-126	-129	-21	-21
		SE	>	PD	ΥF	VF	VC	Λ
Initialization	Initialization of C page data	L					•	
of C, D, E, F page data	Initialization of D page data Initialization of E, F page data	$\vdash$					•	•
page data	HALL adj.	Н	•					•
	Flange back adj.		•					•
	AGC gain calibration adj.		•					•
Camera	Color reproduction adj.	$\vdash$	•	$\vdash$		_		•
	IRIS IN/OUT adj. Auto white balance standard data input	$\vdash$		$\vdash$		$\vdash$		
	Auto white balance adj.	$\vdash$	•	$\vdash$				•
	Color EVF initial data input		•				•	
	VCO adj.		•		•		•	
Color EVF	Bright adj.		•		•		•	
(*1)	Contrast adj.  Backlight consumption current adj.	$\vdash$	•		•		•	
	White balance adj.	Н	•		•		•	
	Centering adj.					•		
	Focus adj.	L				•		
B/W EVF	Aberration adj.  Horizontal amplitude adj.	H				•		
(*2)	Vertical amplitude adj.	$\vdash$				•		
	Brightness adj.	H				•		
	LCD initial data input		•				•	●*4
	VCO adj.	L	•	•			•	
	D range adj. Bright adj.	$\vdash$	•	•				
LCD	Contrast adj.	$\vdash$	_	•			•	
(*3)	V-COM level adj.		•	•			•	
	Color adj.		•	•			•	
	V-COM adj. White balance adj.		•	•			•	
System control	Battery end adj.	┢	_			_	•	
	Switching position adj.	Т	•				•	
	AGC center level adj.						•	
Servo & RF	APC & AEQ adj.	⊢					•	
	PLL f <sub>0</sub> & LPF f <sub>0</sub> final adj.  Hi8/standard8 switching position adj.	$\vdash$	•				•	•
	CAP FG duty adj.	H	•					•
	27MHz/36MHz origin oscillation adj.							•
	AOI chroma BPF f <sub>0</sub> adj.	L					•	
	S VIDEO OUT Y level adj. S VIDEO OUT Cr, Cb level adj.	┝						
X7: 4	Hi8/standard8 14MHz origin oscillation adj.	Н						•
Video	BBI PLL f <sub>0</sub> adj.							•
	Hi8/standard8 Y OUT level adj.							•
	Hi8/standard8 C OUT level adj. Hi8/standard8 AFC f <sub>0</sub> adj.	$\vdash$				_		•
	Hi8/standard8 RP filter f <sub>0</sub> adj.	$\vdash$	$\vdash$	$\vdash$				•
	IR video carrier frequency adj.	Г						•
IR	IR video deviation adj.							•
	IR audio deviation adj.	$\vdash$				_		•
Audio	Hi8/standard8 AFM BPF fo adj. Hi8/standard8 AFM 1.5MHz deviation adj.	$\vdash$	$\vdash$	$\vdash$		_		•
	Hi8/standard8 AFM 1.7MHz deviation adj.	$\vdash$						•
Mechanism	Tape path adj.		•					
	Table 5-1-1(2)							

Table. 5-1-1(2).

Note 1: \*1 : Color EVF model (DCR-TR7000/TR7000E/TR7100E/TRV315) only.

\*2 : B/W EVF model (DCR-TRV103/TRV110/TRV110E/ TRV110P/TRV203/TRV210/TRV210E/ TRV310/TRV310E/TRV310P) only.

\*3: TRV model (DCR-TRV103/TRV110/TRV110E/TRV110P/ TRV203/TRV210/TRV210E/TRV310/ TRV310E/TRV310P/TRV315) only.

\*4 : Page: E, address: C3 and C4 only.

Note 2: 720H model: DCR-TR7000/TRV103/TRV110/TRV110P/ TRV203/TRV210/TRV310/TRV310P/TRV315 960H model: DCR-TR7000E/TR7100E/TRV110E/TRV210E/ TRV310E

	CD board
720H model	CD-212
960H model	CD-213

Note 3: 2.5 LCD model: DCR-TRV103/TRV110/TRV110E/TRV110P 3/3.5 LCD model: DCR-TRV203/TRV210/TRV210E/TRV310/TRV310P/TRV315

	SE board	PD board
2.5 LCD model	SE-86	PD-105
3/3.5 LCD model	SE-87	PD-106
TR model	SE-89	_

#### 5-1. CAMERA SECTION ADJUSTMENT

### 1-1. PREPARATIONS BEFORE ADJUSTMENT (CAMERA SECTION)

#### 1-1-1. List of Service Tools

• Oscilloscope • Color monitor

• Regulated power supply • Digital voltmeter

Ref. No.	Name	Parts Code	Usage
J-1	Filter for color temperature correction (C14)	J-6080-058-A	Auto white balance adjustment/check White balance adjustment/check
1.0	ND filter 1.0	J-6080-808-A	White balance check
J-2	ND filter 0.3	J-6080-818-A	White balance check
J-3	Pattern box PTB-450	J-6082-200-A	
J-4	Color chart for pattern box	J-6020-250-A	
J-5	Adjustment remote commander (RM-95 upgraded). (Note 1)	J-6082-053-B	
J-6	Siemens star chart	J-6080-875-A	For checking the flange back
J-7	Clear chart for pattern box	J-6080-621-A	
J-8	Multi CPC jig	J-6082-311-A	For adjusting the LCD block
J-9	CPC-13 jig	J-6082-443-A	For adjusting the video section For adjusting the color viewfinder
J-10	Power cord (Note 2)	J-6082-223-A	For connecting the battery terminal and DC power supply
J-11	Extension cable (16P, 0.5mm)	J-6082-357-A	For extension between the CD-212 board (CN1401) and the VC-213 board (CN501)(720H model) For extension between the CD-213 board (CN2401) and the VC-213 board (CN501)(960H model)
J-12	Extension cable (70P, 0.5mm)	J-6082-439-A	For extension between the DD-117 board (CN931) and the VC-213 board (CN914)
J-13	IR receiver jig	J-6082-383-A	For adjusting the IR transmitter
J-14	Mini pattern box	J-6082-353-B	For adjusting the flange back
J-15	Camera table	J-6082-384-A	For adjusting the flange back

• Vectorscope

**Note 1:** If the micro processor IC in the adjustment remote commander is not the new micro processor (UPD7503G-C56-12), the pages cannot be switched. In this case, replace with the new micro processor (8-759-148-35).

**Note 2:** Connect the adjustment remote commander to the LANC jack, and set to HOLD switch to the "ADJ" side.

Note 3: 720H model:DCR-TR7000/TRV103/TRV110/TRV110P/

TRV203/TRV210/TRV310/TRV310P/TRV315

960H model:DCR-TR7000E/TR7100E/TRV110E/TRV210E/

TRV310E

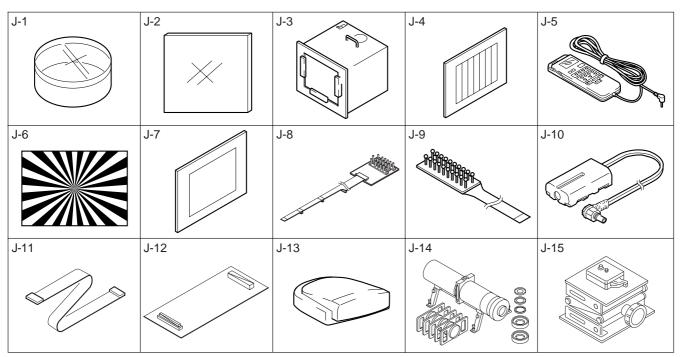


Fig. 5-1-1.

#### 1-1-2. Preparations

**Note 1:** For details of how remove the cabinet and boards, refer to "2. DISASSEMBLY".

**Note 2:** When performing only the adjustments, the lens block and boards need not be disassembled.

Note 3: 2.5 LCD model: DCR-TRV103/TRV110/TRV110E/TRV110P 3/3.5 LCD model: DCR-TRV203/TRV210/TRV210E/TRV310/TRV310P/TRV315

TR model: DCR-TR7000/TR7000E/TR7100E

	MA board	CF board
2.5 LCD model	MA-354	CF-62
3/3.5 LCD model	MA-355	CF-63
TR model	MA-357	CF-65

 Connect the equipment for adjustments according to Fig. 5-1-3, 4, 5.

 The front panel block (MA-354/355/357 board, focus dial, microphone unit) must be assembled because the focus ring is used for adjustments.

Note 4: As removing the cabinet (R) (removing the VC-213 board CN911) means removing the lithium 3V power supply (CF-62/63/65 board BH001), data such as date, time, user-set menus will be lost. After completing adjustments, reset these data. If the cabinet (R) has been removed, the self-diagnosis data, data on history of use (total drum rotation time, etc.) will be lost. Before removing, note down the self-diagnosis data and data on history use (data of page: 2, address: A2 to AA). (Refer to "SELF-DIAGNOSIS FUNCTION" for the self-diagnosis data, and to "5-4. Service Mode" for the data on the history use.)

Note 5: Setting the "Forced Camera Power ON" Mode

1) Select page: 0, address: 01, and set data: 01.

Select page: D, address: 10, set data: 01, and press the PAUSE button of the adjustment remote commander.

The above procedure will enable the camera power to be turned on with the front panel block removed. After completing adjustments, be sure to exit the "Forced Camera Power ON Mode".

Note 6: Exiting the "Forced Camera Power ON" Mode

1) Select page: 0, address: 01, and set data: 01.

2) Select page: D, address: 10, set data: 00, and press the PAUSE button of the adjustment remote commander.

3) Select page: 0, address: 01, and set data: 00.

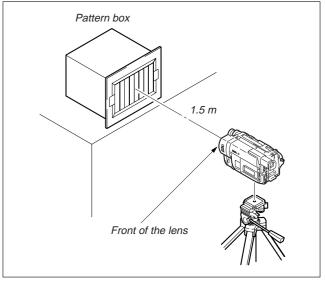


Fig. 5-1-2.

#### 2.5 LCD MODEL (DCR-TRV103/TRV110/TRV110E/TRV110P)

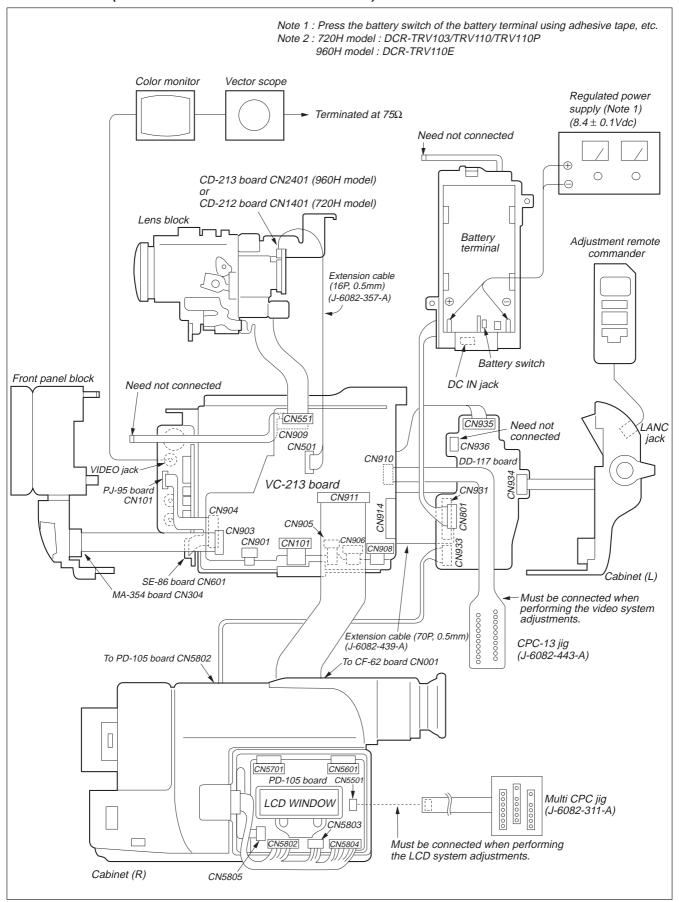


Fig. 5-1-3.

#### 3/3.5 LCD MODEL (DCR-TRV203/TRV210/TRV210E/TRV310/TRV310E/TRV310P/TRV315)

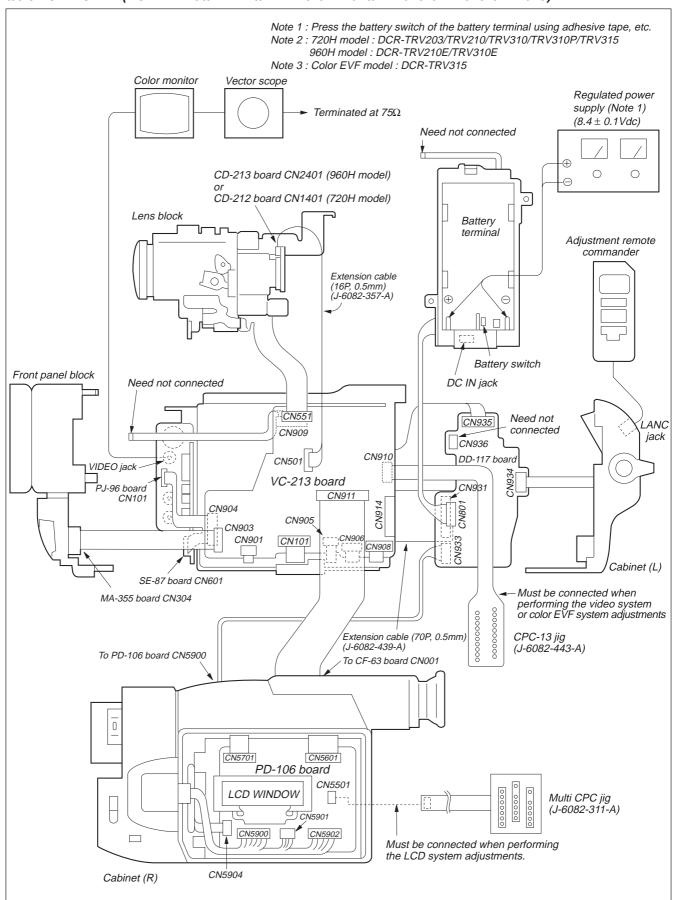


Fig. 5-1-4.

#### TR MODEL (DCR-TR7000/TR7000E/TR7100E)

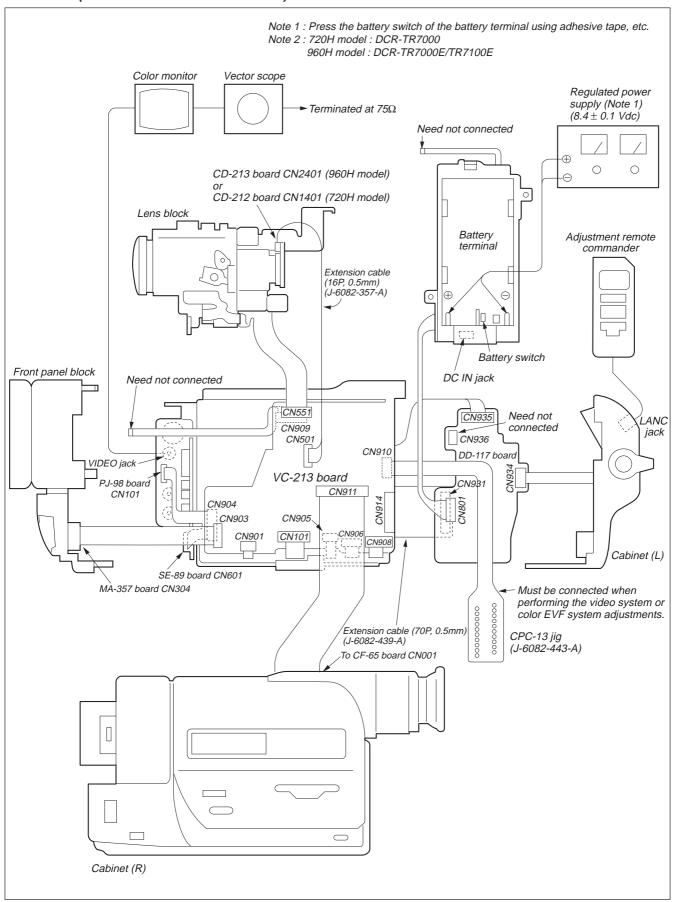


Fig. 5-1-5.

#### 1-1-3. Precaution

#### 1. Setting the Switch

Unless otherwise specified, set the switches as follows and perform adjustments without loading cassette.

Note: TRV model: DCR-TRV103/TRV110/TRV110E/TRV110P/TRV203/TRV210/TRV210E/TRV310/TRV310E/TRV310P/TRV315

1.	POWER switch (MA-354/355/357 board) CAMERA	8.	FOCUS switch (MR-8500 block)	MANUAI
2.	NIGHT SHOT switch (Lens block)OFF	9.	PROGRAM AE (CF-62/63/65 board)	Auto
3.	DEMO MODE (Menu display)OFF	10.	BACK LIGHT (CF-62/63/65 board)	OFF
4.	DIGITAL ZOOM (Menu display)OFF	11.	PICTURE EFFECT (CF-62/63/65 board)	OFF
5.	STEADY SHOT (Menu display)OFF	12.	DIGITAL EFFECT (CF-62/63/65 board)	OFF
6.	DISPLAY (Menu display) (TRV model) V-OUT/LCD	13.	16:9 WIDE (MENU display)	OFF
7.	DISPLAY (CF-62/63 board) (TRV model)ON			

#### 2. Order of Adjustments

Basically carry out adjustments in the order given.

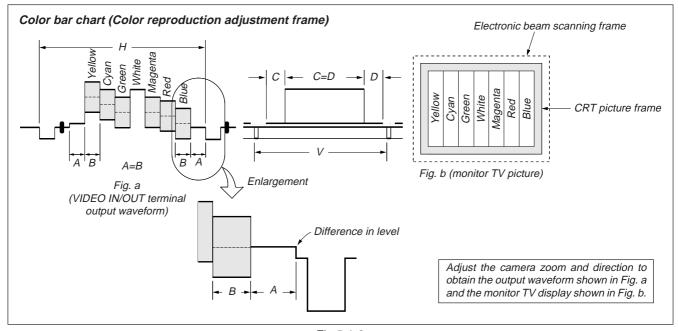


Fig.5-1-6.

#### 3. Subjects

- Color bar chart (Color reproduction adjustment frame)
   When performing adjustments using the color bar chart, adjust the picture frame as shown in Fig. 5-1-6. (Color reproduction adjustment frame)
- Clear chart (Color reproduction adjustment frame)
   Remove the color bar chart from the pattern box and insert a clear chart in its place. (Do not perform zoom operations during this time.)
- 3) Flange back adjustment chart Make the chart shown in Fig. 5-1-7 using A0 size (1189mm × 841mm) black and white vellum paper.

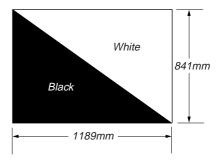


Fig. 5-1-7.

**Note:** Use matte vellum paper bigger than A0, and make sure the edges of the black and white paper joined together are not rough.

#### 1-2. INITIALIZATION OF C, D, E, F PAGE DATA

#### 1-2-1. INITIALIZATION OF C PAGE DATA

#### 1. Initializing the C Page Data

Note: If the C page data has been initialized, "Modification of C Page Data" and following adjustments need to be performed again.

- 1) Servo and RF system adjustment
- "Chroma BPF fo adjustment", "S VIDEO OUT Y level adjustment" and "S VIDEO OUT chroma level adjustment" of the video system adjustments.

Adjusting Page	С
Adjusting Address	10 to DF

#### **Initializing Method:**

- 1) Select page: 0, address: 01, and set data: 80.
- Select page: 3, address: 80, set data: 0C, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 3, address: 80, and check that the data changes to "1C".
- 4) Select page: 0, address: 01, and set data: 00.
- 5) Perform "Modification of C Page Data".

#### 2. Modification of C Page Data

If the C page data has been initialized, change the data of the "Fixed data-2" address shown in the following table by manual input.

#### **Modifying Method:**

- Before changing the data, select page: 0, address: 01, and set data: 01.
- New data for changing are not shown in the tables because they are different in destination. When changing the data, copy the data built in the same model.

**Note:** If copy the data built in the different model, the camcorder may not operate.

- 3) When changing the data, press the PAUSE button of the adjustment remote commander each time when setting new data to write the data in the non-volatile memory.
- Check that the data of adjustment addresses is the initial value.
   If not, change the data to the initial value.

#### Processing after Completing Modification of D Page data

- 1) Select page: 2, address: 00, and set data: 29.
- 2) Select page: 2, address: 01, and set data: 29, and press the PAUSE button of the adjustment remote commander.

#### 3. C Page Table

**Note:** Fixed data-1 : Initialized data. (Refer to "1. Initializing the C Page

Fixed data-2 : Modified data. (Refer to "2. Modification of C Page Data".)

Address	lo itial	valua	Downsult.
Address	NTSC	PAL	Remark
00 t- 0E	NISC	PAL	
00 to 0F 10	EE	EE	Switching position adj.
11	00		Switching position adj.
12	00	00	
13	00	00	
14	00	00	Fixed data-1
15			(Initialized data)
16			(ilitialized data)
	<u> </u>		
17 18	25	25	AEQ adj.
	25	25	AEQ auj.
19	25	25	Fixed data-1
1A	25	25	
1B 1C	25 25	25 25	AEQ adj.
	23		Fixed data-1
1D	25	25	
1E 1F	25 3E	25	AGC center level adj. PLL f <sub>0</sub> adj.
		3E	PLL 10 adj.
20	3E CA	3E	ADC - 1:
21		CA	APC adj.
22	99	99	LPF f <sub>0</sub> adj. Fixed data-1
23			
	90	00	(Initialized data)
25 26	88 E3	88 E2	S VIDEO OUT Y Level Adj.
27		E3	S VIDEO OUT chroma level adj. S VIDEO OUT chroma level adj.
28	A1	A1	Fixed data-1
29			(Initialized data)
29 2A			(ilitialized data)
2B	04	04	Chroma BPF f <sub>0</sub> adj.
2G 2C	04	04	Fixed data-1
2D			(Initialized data)
2D 2E			(ilitialized data)
2F			
30			
31			Fixed data-2
32			Fixed data-1
33			(Initialized data)
33			Fixed data-2
			Fixed data-2
35			
37			(Initialized data)
	00	00	Emangan ay mamany addmass
38	00	00	Emergency memory address
39 3A	00		
3A 3B	00	00	
3B 3C		00	
	00		
3D	00	00	
3E	00	00	
3F	00	00	
40	00	00	

Address	Initial	value	Remark
Addiess	NTSC		Nemark
41	00	00	Emergency memory address
42	00	00	Emergency memory address
43	00	00	
44			Fixed data-1
45			(Initialized data)
46			,
47	20	20	PLL fo fine adj.
48			Fixed data-1
49			(Initialized data)
4A			
4B			
4C			
4D			
4E			
4F			
50			
51			
52			
53			
54			
55			
56			
57			
58			
59			
5A 5B			
5B 5C			
5D			
5E			
5F			
60			
61			
62			
63			
64			
65			
66			
67			
68			
69			
6A			
6B			
6C			
6D			
6E			
6F			
70			
71			
72	02	0.2	ADC 1:
73	03	03	APC adj.
74			Fixed data-1
75 76			(Initialized data)
/0			

Address	Initial	value	Remark
	NTSC	PAL	
77			Fixed data-1
78			(Initialized data)
79			
7A			
7B			
7C			
7D			
7E			
7F			
80			
81			
82			
83			
84			
85			
86			
87			Fixed data-2
88			(Modified data, copy the data built in
89			the same model.)
8A			
8B			Fixed data-1
8C			(Initialized data)
8D			
8E			
8F			
90			
91			
92			
93			
94			
95			
96			
97			
98			
99			
9A			
9B			
9C			
9D			
9E			
9F			
A0			
A1			
A2			
A3			Fixed data-2
A4			Fixed data-1
A5			(Initialized data)
A6			
A7			
A8			
A9			
AA			
AB			
AC			

Address			Remark
	NTSC	PAL	
AD			Fixed data-2
AE			Fixed data-1
AF			(Initialized data)
В0	ļ		
B1			
B2			
В3	ļ		
B4			
B5			
В6			
B7	ļ		
B8	ļ		
В9			
BA			
BB			
BC			
BD			
BE			
BF			
C0			
C1			
C2			
C3			
C4			
C5			
C6			
C7			
C8			
C9			
CA			
СВ			
CC			
CD			
CE			
CF			
D0			
D1			
D2			
D3			
D4			
D5			
D6			
D7			
D8			
D9			
DA			
DB			
DC			
DD			
DE			
DF			

Table. 5-1-2.

#### 1-2-2. INITIALIZATION OF D PAGE DATA

#### 1. Initializing the D Page Data

Note: If the D Page data has been initialized, "Modification of D Page Data" and following adjustments need to be performed again.

- 1) Color viewfinder system adjustments
- 2) LCD system adjustments
- 3) Battery end adjustments

Adjusting page	D
Adjusting Address	10 to 8F

#### **Initializing Method:**

- 1) Select page: 0, address: 01, and set data: 80.
- Select page: 3, address: 80, set data: 0D, and press the PAUSE button of the adjustment remote commander.
- Select page: 3, address: 80, and check that the data changes to "1D".
- 4) Select page: 0, address: 01, and set data: 00.
- 5) Perform "Modification of D Page Data".

#### 2. Modification of D Page Data

If the D Page data has been initialized, change the data of the "Fixed data-2" address shown in the following table by manual input.

#### **Modifying Method:**

- Before changing the data, select page: 0, address: 01, and set data: 01.
- New data for changing are not shown in the tables because they are different in destination. When changing the data, copy the data built in the same model.

**Note :** If copy the data built in the different model, the camcorder may not operate.

- 3) When changing the data, press the PAUSE button of the adjustment remote commander each time when setting new data to write the data in the non-volatile memory.
- 4) Check that the data of adjustment addresses is the initial value. If not, change the data to the initial value.

#### Processing after Completing Modification of D Page data

- 1) Select page: 2, address: 00, and set data: 29.
- 2) Select page: 2, address: 01, and set data: 29, and press the PAUSE button of the adjustment remote commander.

**Note:** If the following symptoms occur after completing of the "Modification of D page data" check that the data of the "Fixed data-2" addresses are model of the same destination.

- 1) The battery end mark on the LCD or viewfinder screen is flashing.
- 2) The power is short off so that unit cannot operate.

#### 3. D Page Table

Note 1: Fixed data-1 : Initialized data. (Refer to "1. Initializing the D Page Data".)

Fixed data-2: Modified data. (Refer to "2. Modification of D Page Data".)

	.,		
Address			Remark
	NTSC	PAL	
00 to 0F			
10	00	00	Test mode
11			Fixed data-1
12			(Initialized data)
13			Fixed data-2
14			(Modified data, copy the data built in
			the same model.)
15			Fixed data-1
16			(Initialized data)
17			

Address	Initial	value	Remark
	NTSC	PAL	
18			Fixed data-2
19			Fixed data-1
1A			Fixed data-2
1B			(Modified data, copy the data built in
			the same model.)
1C			Fixed data-1
1D			(Initialized data)
1E			Fixed data-2
1F			Fixed data-1
20			Fixed data-2
21			Fixed data-1
22			(Initialized data)
23			
24			
25			
26			
27			Fixed data-2
28			(Modified data, copy the data built in
			the same model.)
29			Fixed data-1
2A			Fixed data-2
2B			
2C			Fixed data-1
2D			Fixed data-2
2E			(Modified data, copy the data built in
2F			the same model.)
30	90	90	Battery end adj.
31	98	98	
32	AC	AC	
33	B2	B2	
34	BA	BA	
35			Fixed data-1
36			Fixed data-2
37			Fixed data-1
38			(Initialized data)
39			
3A			
3B			
3C			
3D			
3E			
3F			
40			
41			
42			
43			
44			
45			
46			
47			
48			
49			
4A			
4B			
	<u> </u>		

Address		value	Remark
	NTSC	PAL	
4C			Fixed data-1
4D			(Initialized data)
4E			
4F			
50			
51			
52			
53			
54			
55			
56			
57			
58			
59			
5A			
5B			
5C			
5D			
5E			
5F			
60			
61			
62			
63			
64			
65			Fixed data-2
66			Fixed data-1
67			Fixed data-2
68			Fixed data-1
69			(Initialized data)
6A			
6B			
6C			
6D			
6E			Fixed data-2
6F			(Modified data, copy the data built in
70			the same model.)
71	90	90	White balance adj. (EVF)
72	60	60	e caranee auj. (1. 11)
73	00	00	Fixed data-1
74			Fixed data-2
75	70	70	VCO adj. (EVF)
76			Backlight consumption current adj.
/0	В0	В0	
			(EVF)
77			Fixed data-1
78			Fixed data-2
79			Fixed data-1
7A	60	60	Bright adj. (EVF)
7B	70	70	Contrast adj. (EVF)
7C	90	90	Backlight consumption current adj.
<u></u>			(EVF)
7D			Fixed data-1
7E			(Initialized data)
7F			

Address	Initial	value	Remark
	NTSC	PAL	
80	80/98	80/98	White balance adj. (LCD) (Note2)
81	80/7B	80/7B	White balance adj. (LCD) (Note2)
82	88/80	88/80	D range adj. (LCD) (Note2)
83	90/89	90/89	V-COM level adj. (LCD) (Note2)
84	80	80	VCO adj. (LCD)
85	70/80	70/80	V-COM adj. (LCD) (Note2)
86			Fixed data-1
87			
88			
89			
8A	60/84	60/84	Bright adj. (LCD) (Note2)
8B	78	78	Color adj. (LCD)
8C	80/8D	80/8D	Contrast adj. (LCD) (Note2)
8D			Fixed data-1
8E			(Initialized data)
8F			

Note 2: LCD TYPE S / LCD TYPE C

LCD TYPE S model:DCR-TRV103/TRV110/TRV110E/ TRV110P/TRV203/TRV210/TRV210E/ TRV310E/TRV315

LCD TYPE C model: DCR-TRV310/TRV310P

Table. 5-1-3.

#### 1-2-3. INITIALIZATION OF E, F PAGE DATA

#### 1. Initializing the E, F Page Data

**Note:** If the E, F page data has been initialized, "Modification of E, F Page Data" and following adjustments need to be performed again.

- 1) Camera system adjustments
- "Hi8/standard 8 mm switching position adjustment" and "CAP FG offset adjustment" of the servo & RF system adjustments
- 3) Video system adjustments
- 4) IR transmitter adjustments
- 5) Audio system adjustments

Adjusting Page	F
Adjusting Address	00 to FF
Adjusting Page	Е
Adjusting Address	00 to FF

#### **Initializing Method:**

- 1) Select page: 0, address: 01, and set data: 80.
- 2) Select page: 6, address: 00, and set data: 55 (NTSC) or data: 51 (PAL).
- Select page: 6, address: 01, set data: 55 (NTSC) or data: 51 (PAL), and press the PAUSE button of the adjustment remote commander.
- 4) Select page: 6, address: 02, and check that the data is "01".
- 5) Select page: 0, address: 01, and set data: 00.
- 6) Perform "Modification of E, F Page Data".

#### 2. Modification of E, F Page Data

If the E, F page data has been initialized, change the data of the "Fixed data-2" address shown in the following tables by manual input.

#### **Modifying Method:**

- 1) Before changing the data, select page: 0, address: 01, and set
- 2) New data for changing are not shown in the tables because they are different in destination. When changing the data, copy the data built in the same model.

**Note :** If copy the data built in the different model, the camcorder may not operate.

- 3) When changing the data, press the PAUSE button of the adjustment remote commander each time when setting new data to write the data in the non-volatile memory.
- Check that the data of adjustment addresses is the initial value.
   If not, change the data to the initial value.

#### Processing after Completing Modification of F, E Page data

- 1) Select page: 2, address: 00, and set data: 29.
- 2) Select page: 2, address: 01, and set data: 29, and press the PAUSE button of the adjustment remote commander.

#### 3. F Page table

Note: Fixed data-1: Initialized data. (Refer to "1. Initializing the E, F Page Data".)

Fixed data-2 : Modified data. (Refer to "2. Modification of E, F Page Data".)

Address	Initial	value	Remark
	NTSC	PAL	
00 to 0F			
10	00	00	Emergency memory address
11	00	00	
12	00	00	
13	00	00	
14	00	00	
15	00	00	
16	00	00	
17	00	00	
18	00	00	
19	00	00	
1A	00	00	
1B	00	00	
1C			Fixed data-2
1D			Fixed data-1
1E			(Initialized data)
1F			
20			
21			
22			
23			
24			
25			
26			
27			
28			
29			
2A			
2B			
2C			
2D	12	12	ACC:1:h4:1:
2E 2F	43 3F	43 3F	AGC gain calibration adj.
30	AB 4B	AB 4B	
32	2B	2B	AWB standard data input
33	00	00	2111 D Standard data Input
34	54	54	
35	00	00	
36	00	00	Fixed data-1
37			(Initialized data)
38	1C	1C	Flange back adj.
39	03	03	
3A	25	25	
3B	24	24	
3C	11	11	
3D	05	05	
3E	0A	0A	Hi8/standard 8 mm switching
3F	00	00	position adj.
40	A0	A0	27MHz/36MHz origin oscillation adj.

Address			Remark
	NTSC	PAL	
41	80	80	Hi8/standard 8 mm 14MHz origin osc. adj.
42	80	80	BBI PLL adj.
43	80	00	Fixed data-1
44	-		(Initialized data)
45	-		(mittanzed data)
46	-		
47	88	88	HALL adj.
48	6A	6A	in the auj.
49	071	071	Fixed data-2
4A			Fixed data-1
4B			Fixed data-2
4C			Fixed data-1
4D	-		(Initialized data)
4E	30	30	Color reproduction adj.
4F	2.5		Fixed data-1
50	37	37	Color reproduction adj.
51			Fixed data-1
52	-		(Initialized data)
53	-		
54	94	94	Auto white balance adj.
55	62	62	,
56	3C	3C	IRIS IN/OUT adj.
57	44	44	, ·· · · · · - · · · · · · · ·
58			Fixed data-1
59	-		(Initialized data)
5A	2A	2A	Flange back adj.
5B	00	00	
5C	19	19	
5D	00	00	
5E	37	37	
5F	82	82	Angular velocity sensor sensitivity
60	80	80	data check
61	83	83	CAP FG offset adj.
62	7A	7A	Hi8/standard 8 mm AFM 1.5MHz
			deviation adj.
63	8D	8D	Hi8/standard 8 mm AFM 1.7MHz
			deviation adj.
64	7A	7A	Hi8/standard 8 mm AFM BPF fo adj.
65			Fixed data-1
66	41	41	IR video deviation adj.
67	33	33	IR audio deviation adj.
68	C7	C7	IR video carrier freq. adj.
69	6B	6B	Hi8/standard 8 mm Y level adj.
6A	40	40	Hi8/standard 8 mm AFC f <sub>0</sub> adj.
6B	9A	9A	Hi8/standard 8 mm chroma level adj
6C			Fixed data-1
6D			(Initialized data)
6E	60	60	Hi8/standard 8 mm RP Filter fo adj.
6F			Fixed data-1
70			(Initialized data)
71	_		
72	_		
73	1		

Address	Initial	value	Remark
	NTSC	PAL	
74			Fixed data-1
75			(Initialized data)
76			
77			
78			
79			
7A			
7B			
7C	]		
7D	]		
7E			
7F			
80	1		
81			
82			
83	1		
84			
85			
86			Fixed data-2
87			Fixed data-1
88			(Initialized data)
89			
8A			Fixed data-2
8B			(Modified data, copy the data built in
8C			the same model.)
8D			Fixed data-1
8E			(Initialized data)
8F			,
90			
91			
92			
93			
94			Fixed data-2
95			Fixed data-1
96			(Initialized data)
97			,
98			
99			
9A			
9B			
9C			
9D			
9E			
9F			
A0			
A1			
A2			
A3			
A4			
A5			
A6			
A7			
A8			
A9			
A.J			

Address	Initial	value	Remark
	NTSC	PAL	
AA			Fixed data-1
AB			(Initialized data)
AC			
AD			
AE			
AF			
В0			
B1			
B2			
В3			
B4			
B5			
B6			
В7			
B8			
В9			
BA			
BB			
BC			
BD			
BE			
BF			
C0			
C1			
C2			
C3			
C4			
C5			
C6			
C7			
C8			
C9			
CA			
СВ			
CC			
CD			
CE			
CF			
D0			
D1			
D2			Fixed data-2
D3			Fixed data-1
D4			(Initialized data)
D5			
D6			
D7			F: 11. 2
D8			Fixed data-2
D9			(Modified data, copy the data built in
DA			the same model.)
DB			Fixed data-1
DC			(Initialized data)
DD			Fixed data-2
DE			Fixed data-1
DF			(Initialized data)

Address	Initial	value	Remark
	NTSC	PAL	
E0			Fixed data-1
E1			(Initialized data)
E2			Fixed data-2
E3			Fixed data-1
E4			(Initialized data)
E5			
E6			
E7			
E8			
E9			Fixed data-2
EA			Fixed data-1
EB			(Initialized data)
EC			
ED			
EE			
EF			
F0			
F1			
F2			Fixed data-2
F3			Fixed data-1
F4			(Initialized data)
F5			
F6			
F7			
F8	00	00	Flange back adj.
F9	00	00	
FA	00	00	
FB	FD	FD	Color reproduction adj.
FC	F3	F1	
FD		-	Fixed data-1
FE			(Initialized data)
FF	1		

Table. 5-1-4.

4. E Page Table
Note: Fixed data-1 : Initialized data. (Refer to "1. Initializing the E, F Page Data".)
Fixed data-2 : Modified data. (Refer to "2. Modification of E, F Page Data".)

1 450	e Data".)
Address	Remark
00	Fixed data-1
01	(Initialized data)
02	
03	
04	
05	
06	
07	
08	
09	
0A	
0B	
0C	
0D	
0E	
0F	
10	
11	Fixed data-2
12	(Modified data, copy the data built in
	the same model.)
13	Fixed data-1
14	(Initialized data)
15	Fixed data-2
16	Fixed data-1
17	(Initialized data)
18	
19	
1A	
1B	
1C	
1D	
1E	
1F	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
2A	Fixed data-2
2B	Fixed data-1
2C	(Initialized data)
2D	
2E	
2F	
30	
31	

Address	Remark
32	Fixed data-1
33	(Initialized data)
34	
35	
36	
37	
38	
39	
3A	
3B	
3C	
3D	
3E	
3F	
40	
41	
42	
43	
44	
45	
46	
47	
48	
49 4A	
4A 4B	
4B 4C	
4D	
4E	Fixed data-2
4F	Fixed data-1
50	(Initialized data)
51	
52	
53	
54	
55	
56	
57	
58	
59	
5A	
5B	
5C	
5D	
5E 5F	
60	
61	
62	
63	
64	
65	
66	
67	
68	

Address	Remark
69	Fixed data-1
6A	(Initialized data)
6B	
6C	
6D	
6E	
6F	
70	
71	
72	
73	
74	
75	
76	
77	
78	
79	
7A	
7B	
7C	
7D	
7E	
7F	
80	
81	
82	
83	
84 85	
86	
87	
88	Fixed data-2
89	(Modified data, copy the data built in
8A	the same model.)
8B	Fixed data-1
8C	(Initialized data)
8D	
8E	
8F	
90	
91	
92	
93	
94	
95	
96	
97	
98	
99	
9A	
9B	
9C	
9D	
9E	
9F	

A0 Fixed data-1 A1 (Initialized data) A2 A3 A4 A5 A6 A7 A8 A9 AA AB AC AD AE AF B0 B1 B2 B3 B4 B5 B6 B7 B8 B9 BA BB BC BD BE BF C0 C1	Address	Remark
A2 A3 A4 A5 A6 A7 A8 A9 AA AB AC AD AE AF B0 B1 B2 B3 B4 B5 B6 B7 B8 B9 BA BB BC BD BE BF C0	A0	Fixed data-1
A3 A4 A5 A6 A7 A8 A9 AA AB AC AD AE AF B0 B1 B2 B3 B4 B5 B6 B7 B8 B9 BA BB BC BD BE BF C0	A1	(Initialized data)
A4 A5 A6 A7 A8 A9 AA AB AC AD AE AF B0 B1 B2 B3 B4 B5 B6 B7 B8 B9 BA BB BC BD BE BF C0	A2	
A5 A6 A7 A8 A9 AA AB AC AD AE AF B0 B1 B2 B3 B4 B5 B6 B7 B8 B9 BA BB BC BD BE BF C0	A3	
A6 A7 A8 A9 AA AB AC AD AE AF B0 B1 B2 B3 B4 B5 B6 B7 B8 B9 BA BB BC BD BE BF C0	A4	
A7 A8 A9 AA AB AC AD AE AF B0 B1 B2 B3 B4 B5 B6 B7 B8 B9 BA BB BC BD BE BF C0	A5	
A8 A9 AA AB AC AD AE AF B0 B1 B2 B3 B4 B5 B6 B7 B8 B9 BA BB BC BD BE BF C0	A6	
A9 AA AB AC AD AE AF B0 B1 B2 B3 B4 B5 B6 B7 B8 B9 BA BB BC BD BE BF C0	A7	
AA  AB  AC  AD  AE  AF  B0  B1  B2  B3  B4  B5  B6  B7  B8  B9  BA  BB  BC  BD  BE  BF  C0	A8	
AB AC AD AE AF B0 B1 B2 B3 B4 B5 B6 B7 B8 B9 BA BB BC BD BE BF C0	A9	
AC AD AE AF B0 B1 B2 B3 B4 B5 B6 B7 B8 B9 BA BB BC BD BE BF C0	AA	
AD AE AF B0 B1 B2 B3 B4 B5 B6 B7 B8 B9 BA BB BC BD BE BF C0	AB	
AE     AF     B0     B1     B2     B3     B4     B5     B6     B7     B8     B9     BA     BB     BC     BD     BE     BF     C0	AC	
AF B0 B1 B2 B3 B4 B5 B6 B7 B8 B9 BA BB BC BD BE BF C0	AD	
B0 B1 B2 B3 B4 B5 B6 B7 B8 B9 BA BB BC BD BE BF C0	AE	
B1 B2 B3 B4 B5 B6 B7 B8 B9 BA BB BC BD BE BF C0	AF	
B2 B3 B4 B5 B6 B7 B8 B9 BA BB BC BD BE BF C0	В0	
B3 B4 B5 B6 B7 B8 B9 BA BB BC BD BE BF C0	B1	
B4 B5 B6 B7 B8 B9 BA BB BC BD BE BF C0	B2	
B5 B6 B7 B8 B9 BA BB BC BD BE BF C0	В3	
B6 B7 B8 B9 BA BB BC BD BE BF C0	B4	
B7 B8 B9 BA BB BC BD BE BF C0	B5	
B8 B9 BA BB BC BD BE BF C0	В6	
B9 BA BB BC BD BE BF C0	В7	
BA BB BC BD BE BF C0	В8	
BB BC BD BE BF C0		
BC BD BE BF C0		
BD BE BF C0		
BE BF C0		
BF C0		
C0		
C2 Fi 114 2		F: 11. 2
C3 Fixed data-2		
	C4	(Modified data, copy the data built in
the same model.) C5 Fixed data-1	C5	
C6 (Initialized data)		
C7 (Initialized data)		(minanzed data)
C8		
C9 C9		
CA		
CB		
CC		
CD		
CE		
CF		
D0		
D1		
D2		
D3		
D4	D4	
D5	D5	

Address	Remark
D6	Fixed data-1
D7	(Initialized data)
D8	
D9	
DA	
DB	
DC	
DD	
DE	
DF	
E0	
E1	
E2	
E3	
E4	
E5	
E6	
E7	
E8	
E9	
EA	
EB	
EC	
ED	
EE	
EF	
F0	
F1	
F2	
F3	
F4	
F5	
F6	
F7	
F8	
F9	
FA	
FB	
FC	
FD	
FE	
FF	

Table. 5-1-5.

#### 1-3. CAMERA SYSTEM ADJUSTMENTS

Before perform the camera system adjustments, Check that the specified values of "27/36MHz Origin Oscillation Adjustment", "S VIDEO OUT Y level Adjustment" and "S VIDEO OUT C level Adjustment" of "VIDEO SYSTEM ADJUSTMENT" are satisfied.

#### 1. HALL Adjustment

For detecting the position of the lens iris, adjust the hall AMP gain and offset.

Subject	Not required	
Measurement Point	Display data of page 1	
Measuring Instrument	Adjustment remote commander	
Adjustment Page	F	
Adjustment Address	47, 48	
Specified Value	88 to 8C during IRIS OPEN	
	15 to 19 during IRIS CLOSE	

**Note:** Displayed data of page 1 of the adjustment remote commander.

#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- Select page: 6, address: 01, set data: 6D, and press the PAUSE button of the adjustment remote commander. (The HALL adjustment is performed and the adjustment data is stored in page: F, address: 47 and 48.)
- 3) Select page: 6, address: 02, and check that the data is "01".
- 4) Select page: 6, address: 01, set data: 00, and press the PAUSE button.

#### Checking method:

- 1) Select page: 0, address: 03, and set data: 03.
- 2) Select page: 6, address: 01, set data: 01, and press the PAUSE button.
- Select page: 1, and check that the display data (Note) during IRIS OPEN satisfies the specified value.
- Select page: 6, address: 01, set data: 03, and press the PAUSE button.
- Select page: 1, and check that the display data during IRIS CLOSE satisfies the specified value.

- 1) Select page: 6, address: 01, set data: 00, and press the PAUSE button.
- 2) Select page: 0, address: 01, and set data: 00.
- 3) Select page: 0, address: 03, and set data: 00.

# 2. Flange Back Adjustment (Using Minipattern Box)

The inner focus lens flange back adjustment is carried out automatically. In whichever case, the focus will be deviated during auto focusing/manual focusing.

Subject	Siemens star chart with ND filter for the minipattern box (Note 1)
Measurement Point	Check operation on TV monitor
Measuring Instrument	
Adjustment Page	F
Adjustment Address	38 to 3D, 5A to 5E, F8 to FA

Note 1: Dark Siemens star chart.

#### **Switch setting:**

1)	NIGHT SHOT	OFF
2)	DIGITAL ZOOM (Menu display	)OFF
	STEADY SHOT (Menu display)	

#### Preparation for adjustment

The minipattern box is installed as shown in the following figure. **Note:** The attachment lenses are not used.

Specified voltage:

The specified voltage varies according to the minipattern box, so adjust the power supply output voltage to the specified voltage written on the sheet which is supplied with the minipattern box.

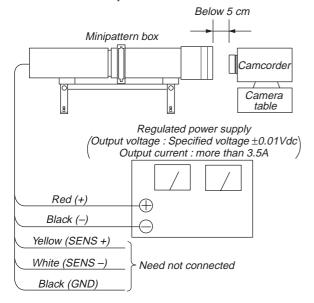


Fig. 5-1-8.

#### Adjusting method:

- 1) Install the minipattern box so that the distance between it and the front of the lens of the camcorder is less than 5 cm.
- 2) Make the height of the minipattern box and the camcorder equal.
- 3) Check that the output voltage of the regulated power supply is the specified voltage  $\pm 0.01 Vdc$ .
- Check that at both the zoom lens TELE end and WIDE end, the center of the Siemens star chart and center of the exposure screen coincide.
- 5) Select page: 0, address: 01, and set data: 01.
- 6) Check that the data of page: F, address:38 to 3D, 5A to 5E, F8 to FA is the initial value (See table below).

Address	Data	Address	Data
38	1C	5B	00
39	03	5C	19
3A	25	5D	00
3B	24	5E	37
3C	11	F8	00
3D	05	F9	00
5A	2A	FA	00

- 7) Select page: 6, address: 02, and check that the data is "00".
- 8) Select page: 6, address: 01, set data: 13, and press the PAUSE button of the adjustment remote commander.
- 9) Select page: 6, address: 01, set data: 27, and press the PAUSE button.
  - (The adjustment data will be automatically input to page: F, addresses:38 to 3D, 5A to 5E, F8 to FA.)
- 10) Select page: 6, address: 02, and check that the data is "01".

- 1) Select page: 0, address:01, and set data: 00.
- 2) Turn OFF the main power supply (8.4V).
- 3) Perform "Flange Back Check".

# 3. Flange Back Adjustment (Using Flange Back Adjustment Chart Subject More Than 500 m Away)

The inner focus lens flange back adjustment is carried out automatically. In whichever case, the focus will be deviated during auto focusing/manual focusing.

#### 3-1. Flange Back Adjustment(1)

Subject	Flange back adjustment chart	
	(2.0 m from the front of the lens)	
	(Luminance: 350 ± 50 lux)	
Measurement Point	Check operation on TV monitor	
Measuring Instrument		
Adjustment Page	F	
Adjustment Address	38 to 3D, 5A to 5E, F8 to FA	

#### **Switch setting:**

1)	NIGHT SHOT	OFF
2)	DIGITAL ZOOM (Menu display)	OFF
3)	STEADY SHOT (Menu display)	OFF

#### Adjusting method:

- Check that at both the zoom lens TELE end and WIDE end, the center of the chart for the flange back adjustment and center of the exposure screen coincide.
- 2) Select page: 0, address: 01, and set data: 01.
- 3) Check that the data of page: F, address:38 to 3D, 5A to 5E, F8 to FA is the initial value (See table below).

Address	Data	Address	Data
38	1C	5B	00
39	03	5C	19
3A	25	5D	00
3B	24	5E	37
3C	11	F8	00
3D	05	F9	00
5A	2A	FA	00

- 4) Select page: 6, address: 02, and check that the data is "00".
- 5) Select page: 6, address: 01, set data: 13, and press the PAUSE button of the adjustment remote commander.
- 6) Select page: 6, address: 01, set data: 15, and press the PAUSE button.
  - (The adjustment data will be automatically input to page: F, addresses:38 to 3D, 5A to 5E, F8 to FA.)
- 7) Select page: 6, address: 02, and check that the data is "01".

#### **Processing after Completing Adjustments**

- 1) Turn OFF the main power supply (8.4V).
- 2) Perform "Flange Back Adjustment (2)".

#### 3-2. Flange Back Adjustment (2)

Perform this adjustment after performing "Flange Back Adjustment (1)".

Subject	Subject more than 500m away (Subjects with clear contrast such as buildings, etc.)
Measurement Point	Check operation on TV monitor
Measuring Instrument	
Adjustment Page	F
Adjustment Address	38 to 3D, 5A to 5E, F8 to FA

#### **Switch setting:**

1)	NIGHT SHOT	OFF
2)	DIGITAL ZOOM (Menu display)	OFF
3)	STEADY SHOT (Menu display)	OFF

#### Adjusting method:

- Set the zoom lens to the TELE end and expose a subject that is more than 500 m away (subject with clear contrast such as building, etc.). (Nearby subjects less than 500 m away should not be in the screen.)
- 2) Select page: 0, address: 01, and set data: 01.
- 3) Select page: 6, address: 02, and check that the data is "00".
- 4) Select page: 6, address: 01, set data: 13, and press the PAUSE button of the adjustment remote commander.
- Place a ND filter on the lens so that the optimum image is obtain.
- 6) Select page: 6, address: 01, set data: 29, and press the PAUSE button.
  - (The adjustment data will be automatically input to page: F, addresses:38 to 3D, 5A to 5E, F8 to FA.)
- 7) Select page: 6, address: 02, and check that the data is "01".

- 1) Select page: 0, address: 01, and set data: 00.
- 2) Turn OFF the main power supply (8.4V).
- 3) Perform "Flange Back Check".

#### 4. Flange Back Check

Subject	Siemens star	
	(2.0 m from the front of the lens)	
	(Luminance : approx. 200 lux)	
Measurement Point	Check operation on TV monitor	
Measuring Instrument		
Specified Value	Focused at the TELE end and WIDE end.	

#### **Switch setting:**

1)	NIGHT SHOT	OFF
2)	DIGITAL ZOOM (Menu display)	OFF
3)	STEADY SHOT (Menu display)	OFF

#### Checking method:

- 1) Place the Siemens star 2.0m from the front of the lens.
- To open the IRIS, decrease the luminous intensity to the 2) Siemens star up to a point before noise appear on the image.
- 3) Select page: 6, address: 40, and set data: 02.
- Select page: 6, address: 41, and set data: 01.
- Shoot the Siemens star with the zoom TELE end. 5)
- Turn on the auto focus. 6)
- Check that the lens is focused (Note). 7)
- 8) Select page: 6, address: 21, and set data: 10.
- 9) Shoot the Siemens star with the zoom WIDE end.
- 10) Observe the TV monitor and check that the lens is focused. Note: When the auto focus is ON, the lens can be checked if it is

focused or not by observing the data on the page 1 of the adjustment remote commander.

- 1) Select page: 0, address: 03, and set data: 0F.
- 2) Page 1 shows the state of the focus.



#### **Processing after Completing Adjustments**

- Select page: 6, address: 21, and set data: 00.
- Select page: 6, address: 40, and set data: 00. 2)
- 3) Select page: 6, address: 41, and set data: 00.
- Select page: 0, address: 03, and set data: 00.

#### 5. Picture Frame Setting

Subject	Color bar chart (Color reproduction adjustment frame) (1.5m from the front of the lens)	
Measurement Point	Video output terminal	
Measuring Instrument	Oscilloscope and TV monitor	
Specified Value	A=B, C=D, E=F	

#### Switch setting:

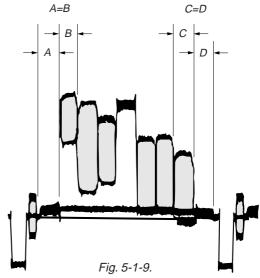
1)	NIGHT SHOT	OFF
2)	DIGITAL ZOOM (Menu display)	OFF
3)	STEADY SHOT (Menu display)	OFF

#### **Setting method:**

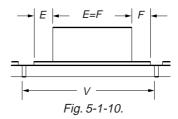
- 1) Adjust the zoom and the camera direction, and set to the specified position.
- Mark the position of the picture frame on the monitor display, and adjust the picture frame to this position in following adjustments using "Color reproduction adjustment frame".

#### Check on the oscilloscope

#### 1. Horizontal period



#### 2. Vertical period



#### Check on the monitor TV (Underscanned mode)

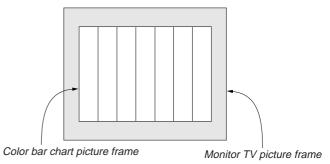


Fig. 5-1-11.

#### 6. AGC Gain Calibration Adjustment

Subject	Clear chart		
-	(Color reproduction adjustment frame)		
Measurement Point	Display data of page 1 (Note)		
Measuring Instrument	Adjustment remote commander		
Adjustment Page	F		
Adjustment Address	2E, 2F, 30, 31		
Specified Value	Data1: 0196 to 0283		
	Data2: 0C97 to 13F4		

**Note:** Displayed data of page 1 of the adjustment remote commander.

1 : XX : XX Display data

#### **Switch setting:**

1) NIGHT SHOT ...... OFF
2) DIGITAL ZOOM (Menu display) .... OFF
3) STEADY SHOT (Menu display) .... OFF

#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- Select page: 6, address: 01, set data: 71, and press the PAUSE button of the adjustment remote commander.
   (The AGC gain calibration adjustment is performed and the adjustment data is stored in page: F, address: 2E to 31.)
- 3) Select page: 6, address: 02, and check that the data is "01".
- 4) Select page: 6, address: 01, set data: 00, and press the PAUSE button.

#### **Checking method:**

- 1) Select page: 0, address: 03, and set data: 25.
- 2) Select page: 6, address: 9A, and set data: 03.
- 3) Select page: 6, address: 01, set data: 9B, and press the PAUSE button
- 4) Select page: 6, address: 02, and check that the data is "01".
- Select page: 1, and check that the display data (Note) satisfies the specified value of data1.
- 6) Select page: 6, address: 01, set data: 00, and press the PAUSE button
- 7) Select page: 6, address: 9A, and set data: 99.
- 8) Select page: 6, address: 01, set data: 9B, and press the PAUSE button
- 9) Select page: 6, address: 02, and check that the data is "01".
- 10) Select page: 1, and check that the display data (Note) satisfies the specified value of data2.

- Select page: 6, address: 01, and set data: 00, and press the PAUSE button.
- 2) Select page: 6, address: 9A, and set data: 00.
- 3) Select page: 0, address: 01, and set data: 00.
- 4) Select page: 0, address: 03, and set data: 00.

#### 7. Color Reproduction Adjustment

Adjust the color Separation matrix coefficient so that proper color reproduction is produced.

Subject	Color bar chart (Color reproduction adjustment frame)
Measurement Point	Video output terminal
Measuring Instrument	Vectorscope
Adjustment Page	F
Adjustment Address	4E, 50, FB, FC
Specified Value	All color luminance points should settle within each color reproduction frame.

Note: NTSC 720H model: DCR-TR7000/TRV103/TRV110/TRV110P/ TRV203/TRV210/TRV310/TRV310P/TRV315 PAL 960H model: DCR-TR7000E/TR7100E/TRV110E/TRV210E/ TRV310E

#### **Switch setting:**

1)	NIGHT SHOT	OFF
2)	DIGITAL ZOOM (Menu display)	OFF
3)	STEADY SHOT (Menu display)	OFF

#### Adjusting method:

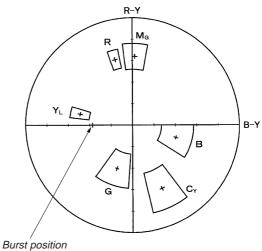
- 1) Select page: 0, address: 01, and set data: 01.
- Select page: F, address: E1, set data: 1B, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: F, address: 27, set data: 3F, and press the PAUSE button.
- 4) Select page: 6, address: 01, set data: 3D, and press the PAUSE button.
- 5) Adjust the GAIN and PHASE of the vectorscope, and adjust the burst luminance point to the burst position of the color reproduction frame.
- 6) Change the data of page: F, address: 4E, 50, FB and FC, and settle each color luminance point in each color reproduction frame.

**Note:** Be sure to press the PAUSE button of the adjustment remote commander before changing the addresses. If not, the new data will not be written to the memory.

#### **Processing after Completing Adjustments**

- Select page: 6, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander.
- Select page: F, address: E1, set data: 20, and press the PAUSE button.
- 3) Select page: 0, address: 01, and set data: 00.

#### NTSC 720H model



#### PAL 960H model

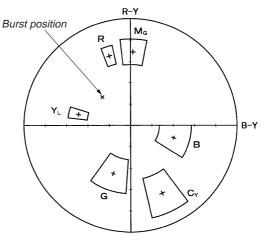


Fig. 5-1-12.

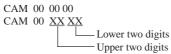
#### 8. IRIS IN/OUT Adjustment

For the unit to judge if the white balance is indoors or outdoors in auto white balance operations, measure the light level and write it in the EEPROM.

If the level is not correct, the white balance will not be accurate.

Subject	Clear chart (Color reproduction adjustment frame)
Measurement Point	DDS display of EVF or LCD or TV monitor (Note)
Measuring Instrument	
Adjustment Page	F
Adjustment Address	56, 57

**Note:** The right four digits of the DDS display data of EVF or LCD or TV monitor.



#### Switch setting:

1)	NIGHT SHOT	OFF
2)	DIGITAL ZOOM (Menu display)	OFF
3)	STEADY SHOT (Menu display)	OFF

#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 0, address: 03, and set data: 06.
- 3) Select page: D, address: 11, set data: 02, and press the PAUSE button of the adjustment remote commander.
- 4) Select page: 6, address: 40, and set data: 02.
- 5) Select page: 6, address: 01, set data: 0B, and press the PAUSE button.
- 6) Read the DDS display data (Note), and take the upper two digits as  $D_1$  and the lower two as  $D_2$ .
- Convert D<sub>1</sub> to decimal notation, and obtain D<sub>1</sub>'. (Refer to Table 5-4-1. "Hexadecimal - decimal conversion table" of "5-4. Service Mode".)
- 8) Calculate D<sub>3</sub>' using the following equations. (Equations 1 and 2 are for decimal notation calculation).

$$\begin{array}{ll} \text{When} & D_2 \geqq D0 \\ & D_3' = D_1' - 21 \end{array} \qquad \begin{array}{ll} \text{Equation 1} \\ \text{When} & D_2 < D0 \\ & D_3' = D_1' - 22 \end{array} \qquad \begin{array}{ll} \text{Equation 2} \end{array}$$

- 9) Convert D<sub>3</sub>' to hexadecimal notation, and obtain D<sub>3</sub>.
- 10) Select page: F, address: 56, set data: D<sub>3</sub>, and press the PAUSE button.
- 11) Select page: 6, address: 01, set data: 09, and press the PAUSE button
- 12) Read the DDS display data (Note), and take the upper two digits as D<sub>4</sub> and the lower two as D<sub>5</sub>.
- Convert D<sub>4</sub> to decimal notation, and obtain D<sub>4</sub>'. (Refer to Table 5-4-1. "Hexadecimal - decimal conversion table" of "5-4. Service Mode".)
- 14) Calculate  $D_6$ ' using the following equations. (Equations 3 and 4 are for decimal notation calculation).

$$\begin{array}{ll} \text{When } D_5 \geqq F0 \\ D_6' = D_4' - 13 & \text{Equation 3} \\ \text{When } D_5 < F0 \\ D_6' = D_4' - 14 & \text{Equation 4} \end{array}$$

- 15) Convert D6' to hexadecimal notation, and obtain D6.
- 16) Select page: F, address: 57, set data: D<sub>6</sub>, and press the PAUSE button.

- Select page: D, address: 11, set data: 00, and press the PAUSE button.
- 2) Select page: 0, address: 01, and set data: 00.
- 3) Select page: 0, address: 03, and set data: 00.
- Select page: 6, address: 01, set data: 00, and press the PAUSE button
- 5) Select page: 6, address: 40, and set data: 00

#### 9. Auto White Balance Standard Data Input

Subject	Clear chart (Color reproduction adjustment frame	
Adjustment Page	F	
Adjustment Address	32 to 35	

- **Note 1:** This adjustment should be carried out upon completion of "6. Color Reproduction Adjustment".
- **Note 2:** Check that the data of page: 6, address: 02 is "00". If not, select page: 6, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander.

#### **Switch setting:**

1)	NIGHT SHOT	OFF
2)	DIGITAL ZOOM (Menu display) .	OFF
3)	STEADY SHOT (Menu display)	OFF

#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Wait for 2 seconds.
- 3) Select page: 6, address: 01, set data: 11, and press the PAUSE button of the adjustment remote commander.
- 4) Select page: 6, address: 01, set data: 0D, and press the PAUSE button.
  - (When the standard data is take in, the data will be automatically input to page: F, address: 32 to 35.)
- 5) Select page: 6, address: 02, and check that the data is "01".
- 6) Perform "Auto White Balance Adjustment".

#### **Processing after Completing Adjustments**

- Select page: 6, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander.
- 2) Select page: 0, address: 01, and set data: 00.

#### 10. Auto White Balance Adjustment

Adjust to the proper auto white balance output data.

If it is not correct, auto white balance and color reproducibility will be poor.

Subject	Clear chart (Color reproduction adjustment frame)	
Filter	Filter C14 for color temperature correction	
Measurement Point	Display data of page 1 (Note2)	
Measuring Instrument	Adjustment remote commander	
Adjustment Page	F	
Adjustment Address	54, 55	
Specified Value	720H model R ratio: 2BC0 to 2C40 B ratio: 5F40 to 5FC0 960H model R ratio: 2C40 to 2CC0 B ratio: 5D40 to 5DC0	

Note 1: Perform "Auto White Balance Standard Data Input" before this adjustment.

**Note 2:** Displayed data of page 1 of the adjustment remote commander.

1 : XX : XX Display data

Note 3: 720H model: DCR-TR7000/TRV103/TRV110/TRV110P/ TRV203/TRV210/TRV310/TRV310P/TRV315

960H model: DCR-TR7000E/TR7100E/TRV110E/TRV210E/ TRV310E

#### **Switch setting:**

1)	NIGHT SHOT	OFF
2)	DIGITAL ZOOM (Menu display)	OFF
3)	STEADY SHOT (Menu display)	OFF

#### Adjusting method:

- 1) Place the C14 filter for color temperature correction on the lens.
- 2) Select page: 0, address: 01, and set data: 01.
- 3) Select page: E, address: 88 to 8B, and note down the data of each address.
- 4) Input the following data to page: E, addresses:88 to 8B.

Address		88	89	8A	8B
Data	720H model	2C	00	5F	80
	960H model	2C	80	5D	80

**Note:** Press the PAUSE button of the adjustment remote commander each time to set the data.

- 5) Select page: 6, address: 01, set data: A7, and press the PAUSE button.
- 6) Select page: 6, address: 01, set data: A5, and press the PAUSE button. (The auto white balance adjustment is performed and the adjustment data is stored in page: F, address: 54 and 55.)
- 7) Select page: 6, address: 02, and check that the data is "01".
- 8) Select page: 6, address: 01, set data: 3F, and press the PAUSE button.
- 9) Select page: 0, address: 03, and set data: 04.
- 10) Select page: 1, and check that the display data (Note2) satisfies the R ratio specified value.
- 11) Select page: 0, address: 03, and set data: 05.
- 12) Select page: 1, and check that the display data (Note2) satisfies the B ratio specified value.
- 13) Select page: E, address: 88 to 8B, and input the data noted down at step 3).

**Note:** After setting each data, be sure to press the PAUSE button of the adjustment remote commander.

- 1) Select page: 0, address: 01, and set data: 00.
- 2) Select page: 0, address: 03, and set data: 00.
- Select page: 6, address: 01, set data: 00, and press the PAUSE button.

#### 11. White Balance Check

Subject	Clear chart (Color reproduction adjustment frame)
Filter	Filter C14 for color temperature correction ND filter 1.0 and 0.3
Measurement Point	Video output terminal
Measuring Instrument	Vectorscope
Specified Value	Fig. 5-1-13. A to C

#### Switch setting:

1)	NIGHT SHOT	OFF
2)	DIGITAL ZOOM (Menu display)	OFF
3)	STEADY SHOT (Menu display)	OFF

#### Checking method:

- 1) Check that the lens is not covered with either filter.
- 2) Select page: 6, address: 01, set data: 0F, and press the PAUSE button of the adjustment remote commander.
- 3) Check that the center of the white luminance point is within the circle shown Fig. 5-1-13. (A).
- 4) Select page: 6, address: 01, set data: 00, and press the PAUSE button.
- 5) Select page: 6, address: 01, set data: 23, and press the PAUSE button.
- 6) Place the C14 filter on the lens.
- 7) Check that the center of the white luminance point settles in the circle shown Fig. 5-1-13. (B).
- 8) Remove the C14 filter, and place the ND filter 1.3 (1.0 +0.3) on the lens.
- 9) Check that the white luminance point stopped moving, and then remove the ND filter 1.3.
- 10) Check that the center of the white luminance point settles within the circle shown Fig. 5-1-13. (C).

#### **Processing after Completing Adjustments**

1) Select page: 6, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander.

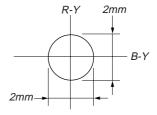


Fig. 5-1-13. (A)

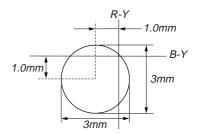


Fig. 5-1-13. (B)

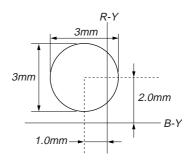


Fig. 5-1-13. (C)

#### 12. Angular Velocity Sensor Sensitivity Data check

• This adjustment is performed only when replacing the angular velocity sensor.

Although this adjustment need not be performed when the circuit is damaged, etc., check the operations.

Note down the sensitivity displayed on the angular velocity sensor
of the repair parts. At this time, note down also to which board it
was attached to.

Be sure to check because if attached incorrectly, the screen will vibrate up and down or left and right during hand-shake correction operations.

#### **Precautions on the Parts Replacement**

There are two types of repair parts.

Type A ENC03JA

Type B ENC03JB

Replace the broken sensor with a same type sensor. If replace with other type parts, the image will vibrate up and down or left and right during hand-shake correction operations.

#### **Precautions on Angular Velocity Sensor**

The sensor incorporates a precision oscillator. Handle it with care as if it dropped, the balance of the oscillator will be disrupted and operations will not be performed properly.

Adjustment Page	F
Adjustment Address	5F, 60

#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: F, address: 5F and check that the data is "82".
- 3) Select page: F, address: 60 and check that the data is "80".

- 1) Select page: 0, address: 01, and set data: 00.
- Check that the steady shot operations have been performed normally.

# 1-4. COLOR ELECTRONIC VIEWFINDER SYSTEM ADJUSTMENTS (DCR-TR7000/TR7000E/TR7100E/TRV315)

**Note 1:** The back light (fluorescent tube) is driven by a high voltage AC power supply. Therefore, do not touch the back light holder to avoid electrical shock.

**Note 2:** When replacing the LCD unit, be careful to prevent damages caused by static electricity.

#### [Adjusting connector]

Most of the measuring points for adjusting the viewfinder system are concentrated in CN910 of the VC-213 board.

Connect the Measuring Instruments via the CPC-13 jig (J-6082-443-A).

The following table shows the Pin No. and signal name of CN910.

Pin No.	Signal Name	Pin No.	Signal Name
1	SWP	11	EVF VCO
2	AFC F0	12	EVF VG
3	BPF MONI	13	DV RF SWP
4	RF AGC IN	14	RF IN
5	PB RF	15	CAP FG
6	REG GND	16	RF MON
7	RF AGC OUT	17	TMS
8	VC RF SWP	18	TCK
9	EVF BL	19	TDO
10	EVF BL 4.6V	20	TDI

Table 5-1-9.

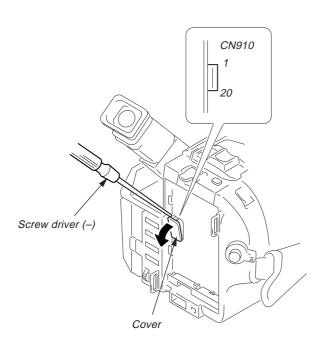


Fig. 5-1-14

#### 1. EVF Initial Data Input

Mode	Camera
Subject	Arbitrary
Adjustment Page	D
Adjustment Address	70 to 76, 78 to 7C

#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: D, and input the data in the following table.

**Note:** To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data.

3) Select page: 0, address: 01, and set data: 00.

Address	Data	Remark
70	7A	Fixed data
71	90	White balance adj.
72	60	White balance adj.
73	48	Fixed data
74	5A	Fixed data
75	70	VCO adj.
76	В0	Backlight consumption current adj.
78	D1	Fixed data
79	AC	Fixed data
7A	60	Bright adj.
7B	70	Contrast adj.
7C	90	Backlight consumption current adj.

#### 2. VCO Adjustment (VF-126 board)

Set the VCO free-run frequency. If deviated, the EVF screen will be blurred.

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ① of CN910 (EVF VCO) on VC-213 board
Measuring Instrument	Oscilloscope (DC range)
Adjustment Page	D
Adjustment Address	75
Specified Value	$A=1.8 \pm 0.1 V$

#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Check the GND level of the oscilloscope.
- 3) Select page: D, address: 75, change the data and set the VCO output voltage (A) to the specified value.
- 4) Press the PAUSE button.
- 5) Select page: 0, address: 01, and set data: 00.

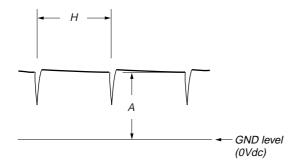


Fig. 5-1-15.

#### 3. Bright Adjustment (VF-126 board)

Set the level of the VIDEO signal for driving the LCD to the specified value. If deviated, the screen image will be blackish or saturated (whitish).

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ② of CN910 (EVF VG) on
	VC-213 board
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	7A
Specified Value	$A=7.15 \pm 0.1V$

#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- Select page: 3, address: 0C, set data: 60, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 3, address: 22, set data: 02, and press the PAUSE button
- 4) Select page: D, address: 7A, change the data and set the voltage (A) between the reversed waveform pedestal and non-reversed waveform pedestal to the specified value.
- 5) Press the PAUSE button.
- Select page: 3, address: 22, set data: 00, and press the PAUSE button.
- Select page: 3, address: 0C, set data: 00, and press the PAUSE button.
- 8) Select page: 0, address: 01, and set data: 00.

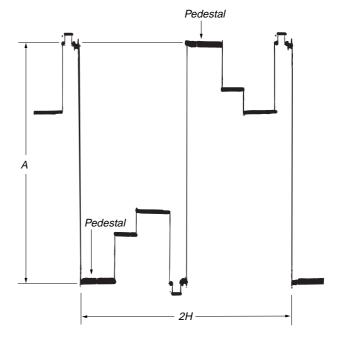


Fig. 5-1-16.

#### 4. Contrast Adjustment (VF-126 board)

Set the level of the VIDEO signal for driving the LCD to the specified value. If deviated, the screen image will be blackish or saturated (whitish).

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ② of CN910 (EVF VG) on VC-213 board
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	7B
Specified Value	A=1.95 ± 0.1V (NTSC) A=1.85 ± 0.1V (PAL)

Note: NTSC model: DCR-TR7000/TRV315 PAL model: DCR-TR7000E/TR7100E

#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- Select page: 3, address: 0C, set data: 60, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 3, address: 22, set data: 02, and press the PAUSE button
- Select page: D, address: 7B, change the data and set the voltage

   (A) between the pedestal (0 IRE) and 100 IRE to the specified value.
- 5) Press the PAUSE button.
- Select page: 3, address: 22, set data: 00, and press the PAUSE button.
- 7) Select page: 3, address: 0C, set data: 00, and press the PAUSE button.
- 8) Select page: 0, address: 01, and set data: 00.

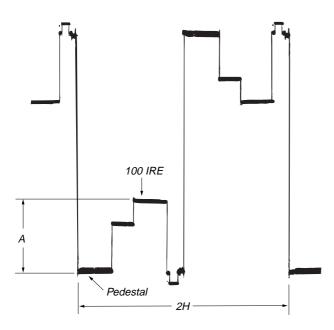


Fig. 5-1-17.

# 5. Backlight Consumption Current Adjustment (VF-126 board)

Set the backlight luminance and color temperature. If deviated, the image may become dark or bright.

Mode	Camera
Subject	Arbitrary
Measurement Point	+ Probe: Pin ⑩ of CN910 (EVF BL 4.6V) on VC-213 board - Probe: Pin ⑨ of CN910 (EVF BL) on VC-213 board
Measuring Instrument	Digital voltmeter
Adjustment Page	D
Adjustment Address	76, 7C
Specified Value	NORMAL mode : $A=16 \pm 1$ mVdc BRIGHT mode : $A=26 \pm 1$ mVdc

**Note:** Adjust 30 seconds after running on the power supply.

#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- Select page: D, address: 7C, change the data and set the voltage difference (A) between Pin (1) of CN910 (EVF BL 4.6V) and Pin (2) of CN910 (EVF BL) to the specified value of NORMAL mode.
- 3) Press the PAUSE button.
- 4) Select page: D, address: 76, change the data and set the voltage difference (A) between Pin (10) and Pin (20) to the specified value of BRIGHT mode..
- Press the PAUSE button.
- 6) Select page: 0, address: 01, and set data: 00.

#### 6. White Balance Adjustment (VF-126 board)

Correct the white balance.

If deviated, the reproduction of the EVF screen may degenerate.

Mode	Camera
Subject	Arbitrary
Measurement Point	Check on EVF screen
Measuring Instrument	
Adjustment Page	D
Adjustment Address	71, 72
Specified Value	The EVF screen should not be colored.

#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 0C, set data: 60, and press the PAUSE button of the adjustment remote commander.
- Select page: 3, address: 22, set data: 0A, and press the PAUSE button.
- 4) Select page: D, address: 71 and 72, set the data to the initial

**Note:** To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data.

Address	Data
71	90
72	60

- Check that the EVF screen is not colored. If colored, change the data of page: D, address: 71 and 72 so that the EVF screen is not colored.
  - **Note:** To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data.
- Select page: 3, address: 22, set data: 00, and press the PAUSE button.
- 7) Select page: 3, address: 0C, set data: 00, and press the PAUSE button of the adjustment remote commander.
- 8) Select page: 0, address: 01, and set data: 00.

# 1-5. MONOCHROME ELECTRONIC VIEWFINEDER SYSTEM ADJUSTMENTS (DCR-TRV103/TRV110/TRV110E/TRV110P/\ TRV203/TRV210/TRV210E/TRV310/ TRV310E/TRV310P

Note: NTSC model: DCR-TRV103/TRV110/TRV110P/TRV203/TRV210/ TRV310/TRV310P

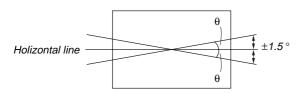
PAL model: DCR-TRV110E/TRV210E/TRV310E

#### 1-5-1. Horizontal Slant Check

Mode	Playback	
Signal	Hi8/standard 8mm alignment tape :	
	For checking operation	
	(WR5-8NSE(NTSC))	
	(WR5-8CSE(PAL))	
	Monoscope section	
Specified Value	± 1.5°	

#### Adjustment method:

- 1) Adjust RV904 (BRIGHT) (VF-129 board) so that the CRT can be seen easily and clearly.
- Check that the difference between the horizontal line and the tilt of black mask satisfies the specified value.



Specified value : The image should be within  $\pm$  1.5  $^{\circ}$  of the holizontal line.

Fig. 5-1-18.

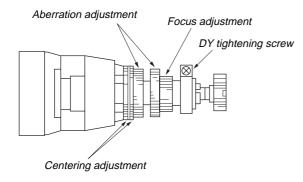
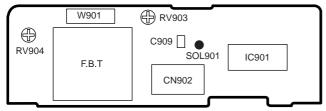


Fig. 5-1-19.

#### VF-129 BOARD



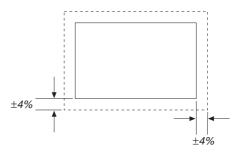
#### 1-5-2. Centering Adjustment

Mode	Playback
Signal	Hi8/standard 8mm alignment tape : For checking operation (WR5-8NSE(NTSC)) (WR5-8CSE(PAL)) Monoscope section
Specified Value	± 4%

#### Adjustment method:

1) Use the centering adjustment ring and adjust so that the left, light, top, and bottom sides of the display are uniform. (Refer to Fig. 5-1-19.)

**Note:** As the centering position changes due to earth magnetism, rotate it 360° in the horizontal direction, and adjust with the center section of the modifying position.



Adjustment value: ±4%

Fig. 5-1-20.

#### 1-5-3. Focus Adjustment

Mode	Playback
Signal	Hi8/standard 8mm alignment tape:
	For checking operation
	(WR5-8NSE(NTSC))
	(WR5-8CSE(PAL))
	Monoscope section

#### Adjustment method:

1) Adjust the focus ring to obtain the optimum focus. (Refer to Fig. 5-1-19.)

#### 1-5-4. Aberration Adjustment

Mode	VTR stop
Signal	Dot pattern
Specified Value	$b1 \le 2 \times a1$ $b2 \le 0.8 \times a2$
	$02 \ge 0.8 \times 32$

#### Adjustment method:

- Adjust the aberration adjustment ring so that the tracing of the dot satisfies the specified value.
- 2) If the centering becomes displaced here, perform the centering adjustment from the beginning again.





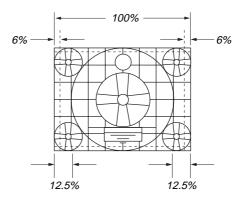
Fig. 5-1-21.

#### 1-5-5. Horizontal Amplitude Adjustment (VF-129 board)

Mode	Playback
Signal	Hi8/standard 8mm alignment tape : For checking operation (WR5-8NSE(NTSC)) (WR5-8CSE(PAL)) Monoscope section
Adjusting Element	C909 (SOL901)
Specified Value	12 ± 6%

#### Adjustment method:

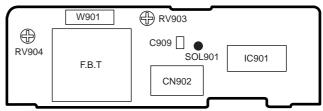
- 1) Rotate RV903, and adjust the top and bottom side of the monoscope image to the top and bottom edges of the display.
- 2) Rotate RV904 so that the brightness is the normal level.
- 3) Solder or unsolder SOL901 pattern of the H size adjustment capacitor (C909) to "short" or "open", so that the horizontal direction over scan becomes  $12 \pm 6\%$  (Left and right totals).



SO	L901	Size H
C	pen	Small
S	hort	Big

Fig. 5-1-22.

#### VF-129 BOARD



#### 1-5-6. Vertical Amplitude Adjustment (VF-129 board)

Mode	Playback
Signal	Hi8/standard 8mm alignment tape : For checking operation (WR5-8NSE(NTSC)) (WR5-8CSE(PAL)) Monoscope section
Adjusting Element	RV903
Specified Value	10 ± 3%

#### Adjustment method:

1) Adjust RV903 so that the vertical direction over scan becomes  $10 \pm 3\%$  (Top and bottom totals).

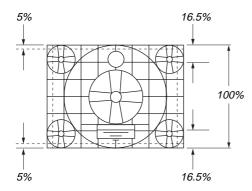


Fig. 5-1-23.

#### 1-5-7. Brightness Adjustment (VF-129 board)

Mode	Playback
Signal	Hi8/standard 8mm alignment tape : For checking operation (WR5-8NSE(NTSC)) (WR5-8CSE(PAL)) Monoscope section
Adjusting Element	RV904

#### Adjustment method:

 Rotate RV904, and adjust so that the bright/dark sections of gray scale are displayed correctly. (The bright section should be unsatisfactory till the cross hatch appears vague in the monoscope circle. The dark section should be unsatisfactory till the darkest section of the gray scale cannot be differentiate.)

# 1-5-8. Horizontal Amplitude, Vertical Amplitude, Focus Check

"1-5-5. Horizontal Amplitude Adjustment" and "1-5-6. Vertical Amplitude Adjustment" should be both satisfy the specified values. If not, perform the adjustments from the beginning again. In this case, perform "1-5-7. Brightness Adjustment" again.

Moreover, check the focus, and if it found to be vague, perform "1-5-3. Focus Adjustment" and "1-5-4. Aberration Adjustment".

# 1-6. LCD SYSTEM ADJUSTMENTS (DCR-TRV103/TRV110/TRV110E/TRV110P/V TRV203/TRV210/TRV210E/TRV310/ TRV310E/TRV310P/TRV315

**Note 1:** The back light (fluorescent tube) is driven by a high voltage AC power supply. Therefore, do not touch the back light holder to avoid electrical shock.

**Note 2:** When replacing the LCD unit, be careful to prevent damages caused by static electricity.

**Note 3:** Set the LCD BRIGHT to the center.

Set the LCD COLOR (Menu display) to the center.

Note 4: 2.5 LCD model: DCR-TRV103/TRV110/TRV110E/TRV110P 3 LCD model: DCR-TRV203/TRV210/TRV210E/TRV315 3.5 LCD model: DCR-TRV310/TRV310E/TRV310P

	PD board
2.5 LCD model	PD-105
3/3.5 LCD model	PD-106

Note 5: LCD TYPE S model: DCR-TRV103/TRV110/TRV110E/ TRV110P/TRV203/TRV210/TRV210E/ TRV310E/TRV315

LCD TYPE C model: DCR-TRV310/TRV310P

#### [Adjusting connector]

Most of the measuring points for adjusting the LCD display are concentrated in the following connector.

CN5501 of the PD-105/106 board

Connect the Measuring Instruments via the multi CPC jig (J-6082-311-A).

The following table shows the Pin No. and signal name of the connector.

Pin No.	Signal Name	Pin No.	Signal Name
1	VB	2	VCO VOLTAGE.
3	VG	4	PANEL COM
5	VR	6	N.C.
7	SYNC	8	H START
9	GND	10	GND

#### [LCD type check]

By measuring the resistor value between Pin (6) of CN5501 and Pin (10) of CN5501, the type of LCD can be discriminated.

#### PD-105/106 board CN5501

Resistor value	LCD type	Model
1kΩ	2.5 LCD TYPE S 61k	CCD-TRV103/TRV110/TRV110P/ TRV110E (E,HK,AUS,CN,JE)
2.2kΩ	2.5 LCD TYPE S 84k	CCD-TRV103E (AEP, UK, EE, NE, RU)
4.7kΩ	3 LCD TYPE S	CCD-TRV203/TRV210/ TRV210E/TRV315
5.6kΩ	3.5 LCD TYPE S	CCD-TRV310E
6.8kΩ	3.5 LCD TYPE C	CCD-TRV310/TRV310P

#### Abbreviation

EE: East European model
NE: North European model
RU: Russian model
HK: Hong Kong model
AUS: Australian model
CN: Chinese model
JE: Tourist model

#### 1. LCD Initial Data Input (1)

Mode	VTR stop
Signal	Arbitrary
Adjustment Page	E
Adjustment Address	C3, C4

#### Adjusting method:

- 1) Select page: 0, address:01, and set data: 01.
- 2) Select page: E, and input the data in the following table.

**Note:** To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data

3) Select page: 0, address:01, and set data: 00.

Address		Data		Remark
Addiess	2.5 LCD	3 LCD	3.5 LCD	Kemark
C3	В3	9A	A1	Fixed data
C4	E0	BC	C9	Fixed data

#### 2. LCD Initial Data Input (2)

Mode	VTR stop
Signal	Arbitrary
Adjustment Page	D
Adjustment Address	80 to 85, 88 to 8F

#### Adjusting method:

- 1) Select page: 0, address:01, and set data: 01.
- 2) Select page: D, and input the data in the following table.

**Note:** To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data.

3) Select page: 0, address:01, and set data: 00.

Address	Da	ata	Remark
Audiess	TYPE S	TYPE C	Kemark
80	80	98	White balance adj.
81	80	7B	White balance adj.
82	88	80	D range adj.
83	90	89	V-COM level adj.
84	80	80	VCO adj.
85	70	80	V-COM adj.
88	80	80	Fixed data
89	80	80	Fixed data
8A	60	84	Bright adj.
8B	78	78	Color adj.
8C	80	8D	Contrast adj.
8D	52	52	Fixed data
8E	99	99	Fixed data
8F	00	00	Fixed data

#### 3. VCO Adjustment (PD-105/106 board)

Set the VCO free-run frequency. If deviated, the LCD screen will be blurred.

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ② of CN5501 (VCO VOLTAGE)
Measuring Instrument	Oscilloscope (DC range)
Adjustment Page	D
Adjustment Address	84
Specified Value	$A = 2.75^{+0.03}_{-0.05} V \text{ (LCD TYPE S)}$
	$A = 1.70^{+0.03}_{-0.05} V (LCD TYPE C)$

Note: LCD TYPE S model: DCR-TRV103/TRV110/TRV110E/TRV110P/ TRV203/TRV210/TRV210E/TRV310E/ TRV315

LCD TYPE C model: DCR-TRV310/TRV310P

#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- Select page: D, address: 84, change the data and set the VCO VOLTAGE (A) to the specified value.
- 3) Press the PAUSE button of the adjustment remote commander.
- 4) Select page: 0, address: 01, and set data: 00.

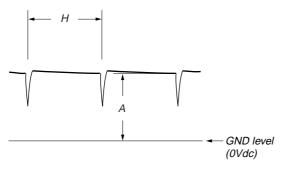


Fig. 5-1-24.

#### 4. D range Adjustment (PD-105/106 board)

Set the D range of the RGB decoder used to drive the LCD to the specified value. If deviated, the LCD screen will become blackish or saturated (whitish).

or saturated (windsh).		
Mode	Camera	
Subject	Arbitrary	
Measurement Point	Pin ③ of CN5501 (VG) External trigger: Pin ④ of CN5501 (PANEL COM)	
Measuring Instrument	Oscilloscope	
Adjustment Page	D	
Adjustment Address	82	
Specified Value	A=3.42 ± 0.05V (LCD TYPE S) A=3.01 ± 0.05V (LCD TYPE C)	

#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 0C, set data: 60, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 3, address: 22, set data: 02, and press the PAUSE button
- 4) Select page: D, address: 82, change the data and set the voltage (A) between the reversed waveform pedestal and non-reversed waveform pedestal to the specified value.
- Press the PAUSE button.
- Select page: 3, address: 22, set data: 00, and press the PAUSE button.
- 7) Select page: 3, address: 0C, set data: 00, and press the PAUSE button.
- 8) Select page: 0, address: 01, and set data: 00.

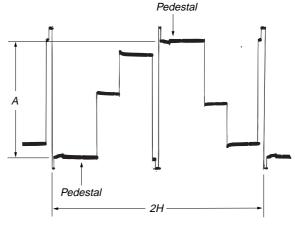


Fig. 5-1-25.

#### 5. Bright Adjustment (PD-105/106 board)

Set the level of the VIDEO signal for driving the LCD to the specified value. If deviated, the screen image will be blackish or saturated (whitish).

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ③ of CN5501 (VG) External trigger: Pin ④ of CN5501 (PANEL COM)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	8A
Specified Value	A=1.61 ± 0.05V (2.5 LCD TYPE S) A=1.76 ± 0.05V (3/3.5LCD TYPE S) A=1.34 ± 0.05V (LCD TYPE C)

**Note :** 2.5 LCD TYPE S model: DCR-TRV103/TRV110/TRV110E/TRV110P/

3/3.5 LCD TYPE S model: DCR-TRV203/TRV210/TRV210E/ TRV310E/TRV315

LCD TYPE C model: DCR-TRV310/TRV310P

#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- Select page: 3, address: 0C, set data: 60, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 3, address: 22, set data: 02, and press the PAUSE button.
- 4) Select page: 2, address: 0E, and set data: 40.
- 5) Select page: D, address: 8A, change the data and set the voltage (A) between the pedestal and gamma1 level to the specified value. (The data of address: 8A should be "41" to "BF".)
- 6) Press the PAUSE button.
- 7) Select page: 2, address: 0E, and set data: 00.
- 8) Select page: 3, address: 22, set data: 00, and press the PAUSE button.
- 9) Select page: 3, address: 0C, set data: 00, and press the PAUSE button
- 10) Select page: 0, address: 01, and set data: 00.

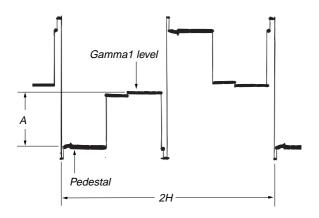


Fig. 5-1-26.

#### 6. Contrast Adjustment (PD-105/106 board)

Set the level of the VIDEO signal for driving the LCD to the specified value. If deviated, the screen image will be blackish or saturated (whitish).

Mode	Camera	
Subject	Arbitrary	
Measurement Point	Pin ③ of CN5501 (VG) External trigger: Pin ④ of CN5501 (PANEL COM)	
Measuring Instrument	Oscilloscope	
Adjustment Page	D	
Adjustment Address	8C	
Specified Value	A=3.10 ± 0.07V (LCD TYPE S) A=2.38 ± 0.07V (LCD TYPE C)	

#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- Select page: 3, address: 0C, set data: 60, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 3, address: 22, set data: 02, and press the PAUSE button
- Select page: D, address: 8C, change the data and set the voltage (A) between the pedestal (0 IRE) and 100 IRE to the specified value.
- 5) Press the PAUSE button.
- Select page: 3, address: 22, set data: 00, and press the PAUSE button.
- 7) Select page: 3, address: 0C, set data: 00, and press the PAUSE button.
- 8) Select page: 0, address: 01, and set data: 00.

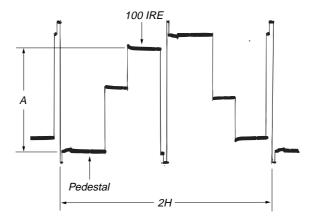


Fig. 5-1-27.

#### 7. V-COM Level Adjustment (PD-105/106 board)

Set the common electrode drive signal level of LCD to the specified value.

Mode	Camera
Subject	Arbitrary
Measurement Point	Pin 4 of CN5501 (PANEL COM)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	83
Specified Value	$A=6.15 \pm 0.05V \\ (2.5 LCD TYPE S 61k NTSC) \\ A=6.48 \pm 0.05V \\ (2.5 LCD TYPE S 61k PAL) \\ A=6.03 \pm 0.05V \\ (2.5 LCD TYPE S 84k PAL) \\ A=6.28 \pm 0.05V \\ (3 LCD TYPE S NTSC) \\ A=6.60 \pm 0.05V \\ (3 LCD TYPE S PAL) \\ A=6.60 \pm 0.05V \\ (3.5 LCD TYPE S PAL) \\ A=5.10 \pm 0.05V \\ (3.5 LCD TYPE C NTSC)$

**Note 1 :** Perform "Bright Adjustment" and "Contrast Adjustment" before this adjustment.

Note 2: 2.5 LCD TYPE S 61k NTSC model: DCR-TRV103/TRV110/

TRV110P

2.5 LCD TYPE S 84k PAL model: DCR-TRV110E

(AEP,UK,EE,NE,RU)

2.5 LCD TYPE S 61k PAL model : DCR-TRV110E

(E,HK,AUS,CN,JE)

3 LCD TYPE S NTSC model: DCR-TRV203/TRV210/TRV315

3 LCD TYPE S PAL model: DCR-TRV210E

3.5 LCD TYPE S PAL model: DCR-TRV310E

3.5 LCD TYPE C NTSC model: DCR-TRV310/TRV310P

#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- Select page: 3, address: 0C, set data: 60, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 3, address: 22, set data: 02, and press the PAUSE button
- 4) Select page: D, address: 83, change the data and set the PANEL COM signal level (A) to the specified value.
- 5) Press the PAUSE button.
- Select page: 3, address: 22, set data: 00, and press the PAUSE button.
- Select page: 3, address: 0C, set data: 00, and press the PAUSE button.
- 8) Select page: 0, address: 01, and set data: 00.

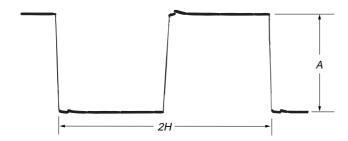


Fig. 5-1-28.

#### 8. Color Adjustment (PD-105/106 board)

Set the color saturation to the standard value. If deviated, the color will be to dark or light.

will be to dark of light.	
Mode	Camera
Subject	Arbitrary
Measurement Point	Pin ③ of CN5501 (VG)
	External trigger: Pin 4 of CN5501
	(PANEL COM)
Measuring Instrument	Oscilloscope
Adjustment Page	D
Adjustment Address	8B
Specified Value	$A=0.43 \pm 0.05V$
	(2.5 LCD TYPE S 61k NTSC)
	$A=0.45 \pm 0.05V$
	(2.5 LCD TYPE S 61k PAL)
	$A=0.36 \pm 0.05V$
	(2.5 LCD TYPE S 84k PAL)
	$A=0.49 \pm 0.05V$
	(3 LCD TYPE S NTSC)
	$A=0.43 \pm 0.05V$ (3 LCD TYPE S PAL)
	$A=0.40 \pm 0.05V$ (3.5 LCD TYPE S PAL)
	$A=0.22 \pm 0.05V$
	(3.5 LCD TYPE C NTSC)

Note: 2.5 LCD TYPE S 61k NTSC model: DCR-TRV103/TRV110/

TRV110P

2.5 LCD TYPE S 84k PAL model : DCR-TRV110E

(AEP,UK,EE,NE,RU)

2.5 LCD TYPE S 61k PAL model : DCR-TRV110E (E,HK,AUS,CN,JE)

3 LCD TYPE S NTSC model: DCR-TRV203/TRV210/TRV315

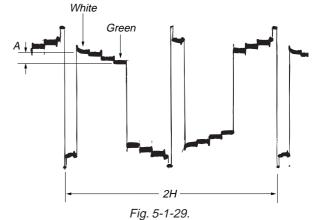
3 LCD TYPE S PAL model : DCR-TRV210E

3.5 LCD TYPE S PAL model : DCR-TRV310E

3.5 LCD TYPE C NTSC model: DCR-TRV310/TRV310P

#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 0C, set data: 01, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: C, address: 95, set data: 10, and press the PAUSE button.
- 4) Select page: C, address: 96, set data: 10, and press the PAUSE button.
- 5) Select page: D, address: 8B, change the data and set the voltage (A) between the white and green to the specified value.
- 6) Press the PAUSE button.
- 7) Select page: C, address: 95, set data: 20, and press the PAUSE button
- 8) Select page: C, address: 96, set data: 20, and press the PAUSE button.
- Select page: 3, address: 0C, set data: 00, and press the PAUSE button.
- 10) Select page: 0, address: 01, and set data: 00.



5-41

#### 9. V-COM Adjustment (PD-105/106 board)

Set the DC bias of the common electrode drive signal of LCD to the specified value.

If deviated, the LCD display will move, producing flicker and conspicuous vertical lines.

· · · · · · · · · · · · · · · · · · ·		
Mode	Camera	
Subject	Arbitrary	
Measurement Point	Check on LCD display	
Measuring Instrument		
Adjustment Page	D	
Adjustment Address	85	
Specified Value	The brightness difference between the section A and section B is minimum.	

**Note** : Perform "Bright Adjustment" and "Contrast Adjustment" before this adjustment.

#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 0C, set data: 60, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 3, address: 22, set data: 0F, and press the PAUSE button
- 4) Select page: 2, address: 0E, and set data: 20.
- 5) Select page: D, address: 85, change the data so that the brightness of the section A and that of the section B is equal.
- 6) Press the PAUSE button.
- 7) Select page: 2, address: 0E, and set data: 00.
- 8) Select page: 3, address: 22, set data: 00, and press the PAUSE button.
- Select page: 3, address: 0C, set data: 00, and press the PAUSE button
- 10) Select page: 0, address: 01, and set data: 00.

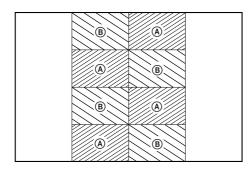


Fig. 5-1-30.

#### 10. White Balance Adjustment (PD-105/106 board)

Correct the white balance.

If deviated, the LCD screen color cannot be reproduced.

Mode	Camera
Subject	Arbitrary
Measurement Point	Check on LCD display
Measuring Instrument	
Adjustment Page	D
Adjustment Address	80, 81
Specified Value	The LCD screen should not be colored.

**Note 1:** Check the white balance only when replacing the following parts. If necessary, adjust them.

- 1. LCD panel
- 2. Light induction plate
- 3. IC5502

Note 2: LCD TYPE S model: DCR-TRV103/TRV110/TRV110E/

TRV110P/TRV203/TRV210/TRV210E/

TRV310E/TRV315

LCD TYPE C model: DCR-TRV310/TRV310P

#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- Select page: 3, address: 0C, set data: 60, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 3, address: 22, set data: 0A, and press the PAUSE button.
- 4) Select page: D, address: 80 and 81, and set the data to the initial value.

**Note:** To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data.

Address	Data
80	80 (LCD TYPE S), 98 (LCD TYPE C)
81	80 (LCD TYPE S), 7B (LCD TYPE C)

5) Check that the LCD screen is not colored. If colored, change the data of page: D, address: 80 and 81 so that the LCD screen is not colored.

**Note:** To write in the non-volatile memory (EEPROM), press the PAUSE button of the adjustment remote commander each time to set the data.

- 6) Select page: 3, address: 22, set data: 00, and press the PAUSE button.
- 7) Select page: 3, address: 0C, set data: 00, and press the PAUSE button.
- 8) Select page: 0, address: 01, and set data: 00.

# 5-2. MECHANISM SECTION ADJUSTMENT

Mechanism Section adjustments, checks, and replacement of mechanism parts, refer to the separate volume "8mm Video Mechanism Adjustment Manual VII B Mechanism".

Note 1: NTSC model: DCR-TR7000/TRV103/TRV110/TRV110P/ TRV203/TRV210/TRV310/TRV310P/TRV315 PAL model: DCR-TR7000E/TR7100E/TRV110E/TRV210E/ TRV310E

# 2-1. Hi8/STANDARD 8mm MODE 2-1-1. OPERATING WITHOUT CASSETTE

- Refer to "Section 2. DISASSEMBLY" and supply the power with the cabinet assembly removed. (So that the mechanical deck can be operated.)
- 2) Connect the adjustment remote commander to the LANC jack.
- Turn on the HOLD switch of the adjustment remote commander.
- Close the cassette compartment without loading a cassette and complete loading.
- 5) Select page: 0, address: 01, and set data: 01.
- 6) Select page: F, address: 2C, set data: 01, and press the PAUSE button of the adjustment remote commander.
- 7) Select page: D, address: 10, set data: 10, and press the PAUSE button of the adjustment remote commander.
- 8) Disconnect the power supply of the unit.
  - By carrying out the above procedure, the unit can be operated without loading a cassette. (Note2)
  - Be sure to carry out "Processing after Operations" after checking the operations.
  - Set the data of page: D, address: 10 to "12", if the sensor ineffective mode, forced VTR power supply ON mode is to be used together.
  - **Note 2:** Except for the camera recording mode and VTR recording mode.

#### [Procedure after checking operations]

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: F, address: 2C, set data: 00, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: D, address: 10, set data: 00, and press the PAUSE button of the adjustment remote commander.
- 4) Select page: 0, address: 01, and set data: 00.
- 5) Disconnect the power supply of the unit.

#### 2-1-2. TAPE PATH ADJUSTMENT

#### 1. Preparations for Adjustment

- 1) Clean the tape path face (tape guide, capstan shaft, pinch roller).
- 2) Connect the adjustment remote commander to the LANC jack.
- Turn on the HOLD switch of the adjustment remote commander.
- 4) Select page: 0, address: 01, and set data: 01.
- 5) Select page: 2, address: 2E, and set data: 02.
- 6) Select page: F, address: 2C, set data: 04, and press the PAUSE button of the adjustment remote commander.
  - (Be sure to perform "Processing after operation" after completing adjustments.)
- 7) Connect the oscilloscope to VC-213 board CN910 via CPC-13 jig (J-6082-443-A).

Channel 1: VC-213 board, CN910 Pin (5)

External trigger: VC-213 board, CN910 Pin ®

8) Playback Hi8/standard 8mm alignment tape for tracking.

(WR5-1NP(NTSC))

(WR5-1CP(PAL))

- Check that the oscilloscope RF waveform is flat at the entrance and exit.
  - If not flat, adjust according to the separate volume "8mm Video Mechanical Adjustment Manual W B Mechanism".
- 10) Perform "Processing after operations", after completing adjustment.

#### CN910 of VC-213board

Pin	No.	Signal Name	Pin No.	Signal Name
	1	SWP	11	EVF VCO
	2	AFC F0	12	EVF VG
	3	BPF MONI	13	DV RF SWP
	4	RF AGC IN	14	RF IN
	5	PB RF	15	CAP FG
	6	REG GND	16	RF MON
	7	RF AGC OUT	17	TMS
	8	VC RF SWP	18	TCK
	9	EVF BL	19	TDO
	10	EVF BL 4.6V	20	TDI

Table 5-2-1.

#### [Procedure after operations]

- Connect the adjustment remote commander, and turn on the HOLD switch.
- 2) Select page: 0, address: 01, and set data: 01.
- 3) Select page: 2, address: 2E, and set data: 00.
- 4) Select page: F, address: 2C, set data: 00, and press the PAUSE button of the adjustment remote commander.
- 5) Select page: 0, address: 01, and set data: 00.
- 6) Remove the power supply from the unit.

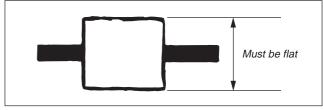


Fig. 5-2-1.

#### 2-2. DIGITAL8 MODE

# 2-2-1. HOW TO ENTER RECORD MODE WITHOUT CASSETTE

- 1) Connect the adjustment remote commander to the LANC jack.
- Turn the HOLD switch of the adjustment remote commander to the ON position.
- 3) Close the cassette compartment without the cassette.
- Select page: 3, address: 01, and set data: 0C, and press the PAUSE button of the adjustment remote commander. (The mechanism enters the record mode automatically.)
   Note: The function buttons becomes inoperable.
- 5) To quit the record mode, select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander. (Whenever you want to quit the record mode, be sure to quit following this procedure.)

# 2-2-2. HOW TO ENTER PLAYBACK MODE WITHOUT CASSETTE

- 1) Connect the adjustment remote commander to the LANC jack.
- Turn the HOLD switch of the adjustment remote commander to the ON position.
- 3) Close the cassette compartment without the cassette.
- Select page: 3, address: 01, and set data: 0B, and press the PAUSE button of the adjustment remote commander. (The mechanism enters the playback mode automatically.)
   Note: The function buttons becomes inoperable.
- 5) To quit the playback mode, select page: 3, address: 01, set data: 00, and press the PAUSE button of the adjustment remote commander. (Whenever you want to quit the playback mode, be sure to quit following this procedure.)

#### 2-2-3. OVERALL TAPE PATH CHECK

#### 1. Recording of the tape path check signal

- Clean the tape running side (tape guide, capstan shaft, pinch roller).
- 2) Connect the adjustment remote commander to the LANC jack.
- Turn the HOLD switch of the adjustment remote commander to the ON position.
- 4) Set to the camera recording mode.
- 5) Select page: 3, address: 1C, set data: 5D, and press the PAUSE button of the adjustment remote commander.
- 6) Record for several minutes.
- 7) Release the camera recording mode.
- 8) Select page: 3, address: 1C, set data: 00, and press the PAUSE button.

#### 2. Tape path check

- Clean the tape running side (tape guide, capstan shaft, pinch roller).
- 2) Connect the adjustment remote commander to the LANC jack.
- 3) Turn the HOLD switch of the adjustment remote commander to the ON position.
- Connect an oscilloscope to VC-213 board CN910 via the CPC-13 jig (J-6082-443-A).

Channel 1: VC-213 board, CN910 Pin (16) (Note)

External trigger: VC-213 board, CN910 Pin 3

**Note:** Connect a 75 $\Omega$  resistor between Pins (6) of CN910 and (6) (GND).

- 5) Select page: 2, address: 2E, and set data: 01.
- 6) Playback the tape path check signal.
- 7) Select page: 3, address: 33, and set data: 08.
- 8) Select page: 3, address: 26, and set data: 31.
- Check that the oscilloscope RF waveform is flat at the entrance and exit.

If not flat, perform "2-1-2. TAPE PATH ADJUSTMENT " of "2-1. Hi8/STANDARD 8mm MODE".

- 10) Select page: 3, address: 26, and set data: 00.
- 11) Select page: 3, address: 33, and set data: 00.
- 12) Select page: 2, address: 2E, and set data: 00.

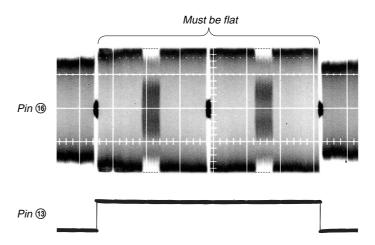


Fig. 5-2-2.

#### 5-3. VIDEO SECTION ADJUSTMENT

#### 3-1. PREPARATIONS BEFORE ADJUSTMENTS

Use the following measuring instruments for video section adjustments.

**Note:** NTSC model: DCR-TR7000/TRV103/TRV110/TRV110P/TRV203/

TRV210/TRV310/TRV310P/TRV315

PAL model: DCR-TR7000E/TR7100E/TRV110E/TRV210E/

#### 3-1-1. Equipment to Required

1) TV monitor

- Oscilloscope (dual-phenomenon, band width above 30 MHz with delay mode) (Unless specified otherwise, use a 10:1 probe.)
- 3) Frequency counter
- 4) Pattern generator with video output terminal
- 5) Digital voltmeter
- 6) Audio generator
- 7) Audio level meter
- 8) Audio distortion meter
- 9) Audio attenuator
- 10) Regulated power supply
- 11) Digital8 alignment tapes
  - SW/OL standard (WR5-2D)

Parts code: 8-967-993-22

• Audio operation check for NTSC (WR5-3ND)

Parts code: 8-967-993-32

• System operation check for NTSC (WR5-5ND)

Parts code: 8-967-993-42

• BIST check for NTSC (WR5-6ND)

Parts code: 8-967-993-51

• Audio operation check for PAL (WR5-3CD)

Parts code: 8-967-993-37

• System operation check for PAL (WR5-5CD)

Parts code: 8-967-993-47

• BIST check for PAL (WR5-6CD)

Parts code: 8-967-993-56

12) NTSC Hi8/standard8 mm alignment tapes (For NTSC model)

• For tracking adjustment (WR5-1NP)

Parts code: 8-967-995-02

• For video frequency characteristics adjustment (WR5-7NE)

Parts code: 8-967-995-13

• For checking Standard 8 mode operations

For LP (WR5-4NL)

Parts code: 8-967-995-51

For SP (WR5-5NSP)

Parts code: 8-967-995-42

Note: The following alignment tapes can also be used.

WR5-4NSP (8-967-995-41)

• For checking Hi8 mode operations

For LP (WR5-8NLE) Parts code : 8-967-995-52

For SP (WR5-8NSE)

Parts code : 8-967-995-43

• For Checking AFM stereo operations (WR5-9NS)

Parts code: 8-967-995-23

• For BPF adjustment (WR5-11NS)

Parts code: 8-967-995-71

13) PAL Hi8/standard8 mm alignment tapes (For PAL model)

• For tracking adjustment (WR5-1CP)

Parts code: 8-967-995-07

• For video frequency characteristics adjustment (WR5-7CE)

Parts code: 8-967-995-18

• For checking Standard 8 mode operations

For LP (WR5-4CL)

Parts code: 8-967-995-56

For SP (WR5-5CSP)

Parts code: 8-967-995-47

**Note**: The following alignment tapes can also be used.

1) WR5-3CL (8-967-995-36)

2) WR5-4CSP (8-967-995-46)

• For checking Hi8 mode operations

For LP (WR5-8CLE)

Parts code: 8-967-995-57

For SP (WR5-8CSE)

Parts code: 8-967-995-48

• For Checking AFM stereo operations (WR5-9CS)

Parts code: 8-967-995-28

• For BPF adjustment (WR5-11CS)

Parts code: 8-967-995-76

14) Adjustment remote commander (J-6082-053-B)

15) CPC-13 jig (J-6082-443-A)

16) Power code (J-6082-223-A)

Note: Connect the adjustment remote commander to the LANC jack, and set the HOLD switch to the "ADJ" side.

17) IR receiver jig (J-6082-383-A)

18) Extension cable (70P, 0.5mm)

For extension between the DD-117 board (CN931) and the VC-213 board (CN914) (J-6082-439-A)

#### 3-1-2. Precautions on Adjusting

 The adjustments of this unit are performed in the VTR mode or camera mode.

To set to the VTR mode, set the power switch to "VTR or PLAYER" or set the "Forced VTR Power ON mode" using the adjustment remote commander (Note 1).

To set to the Camera mode, set the power switch to "CAMERA" or set the "Forced Camera Power ON mode" using the adjustment remote commander (Note 2).

After completing adjustments, be sure to exit the "Forced VTR Power ON Mode" or "Forced Camera Power ON Mode". (Note 3)

2) The front panel block (MA-354/355/357 board, focus dial, microphone unit) need not be connected except during "Battery end adjustment" and "IR transmitter adjustment". To remove, disconnect the following connectors.

VC-213 board CN903 (22P 0.5mm)

- By setting the "Forced VTR Power ON mode" or "Forced Camera Power ON mode", the video section can be operate even if even if the cabinet (R) block (Camera function switch (CF-62/63/65 board), LCD block (TRV model only), viewfinder. power switch) has been removed. But removing the cabinet (R) block (removing the VC-213 board CN911) means removing the lithium 3V power supply (CF-62/63/65 board BH001), data such as date, time, user-set menus will be lost. After completing adjustments, reset these data. If the cabinet (R) block has been removed, the self-diagnosis data, data on history of use (total drum rotation time etc. ) will be lost. Before removing, note down the self-diagnosis data and data on history use (data of page: 2, address: A2 to AA). (Refer to "SELF-DIAGNOSIS FUNCTION" for the self-diagnosis data, and to "5-4. Service Mode" for the data on the history use.) To remove the cabinet (R), disconnect the following connectors.
  - 1. VC-213 board CN911 (50P, 0.5mm)
  - 2. DD-117 board CN933 (10P, 1.0mm) (TRV model only)
- 4) The lens block (CD-212/213 board) and the intelligent accessory shoe need not be connected except during "Battery end adjustment". To remove, disconnect the following connectors.
  - 1. VC-213 board CN501 (16P, 0.5mm)
  - 2. VC-213 board CN551 (24P, 0.5mm)
  - 3. Intelligent accessory shoe (8P, 0.5mm)

- **Note 1:** Setting the "Forced VTR Power ON" mode (VTR mode)
  - 1) Select page: 0, address: 01, and set data: 01.
  - 2) Select page: D, address: 10, set data: 02, and press the PAUSE button of the adjustment remote commander.

The above procedure will enable the VTR power to be turned on with the front panel block removed.

After completing adjustments, be sure to exit the "Forced VTR Power ON mode".

- Note 2: Setting the "Forced Camera Power ON" mode (Camera mode)
  - 1) Select page: 0, address: 01, and set data: 01.
  - 2) Select page: D, address: 10, set data: 01, and press the PAUSE button of the adjustment remote commander.

The above procedure will enable the camera power to be turned on with the front panel block removed.

After completing adjustments, be sure to exit the "Forced Camera Power ON mode".

- Note 3: Exiting the "Forced Power ON" mode
  - 1) Select page: 0, address: 01, and set data: 01.
  - Select page: D, address: 10, set data: 00, and press the PAUSE button of the adjustment remote commander.
  - 3) Select page: 0, address: 01, and set data: 00.
- Note 4: 2.5 LCD model : DCR-TRV103/TRV110/TRV110E/TRV110P 3/3.5 LCD model : DCR-TRV203/TRV210/TRV210E/TRV310/ TRV310E/TRV310P/TRV315

TR model : DCR-TR7000/TR7000E/TR7100E

TRV model : DCR-TRV103/TRV110/TRV110E/TRV110P/ TRV203/TRV210/TRV210E/TRV310/TRV310E/ TRV310P/TRV315

	MA board	CF board	PD board
2.5 LCD model	MA-354	CF-62	PD-105
3/3.5 LCD model	MA-355	CF-63	PD-106
TR model	MA-357	CF-65	

Note 5: 720H model:DCR-TR7000/TRV103/TRV110/TRV110P/ TRV203/TRV210/TRV310/TRV310P/TRV315 960H model:DCR-TR7000E/TR7100E/TRV110E/TRV210E/ TRV310E

	CD board
720H model	CD-212
960H model	CD-213

#### 3-1-3. Adjusting Connectors

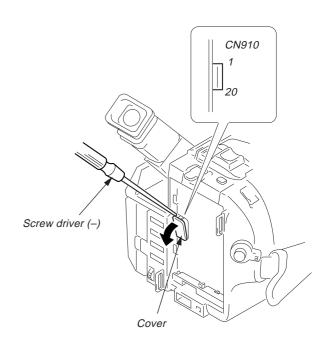
Some of the adjusting points of the video section are concentrated at VC-213 board CN910. Connect the measuring instruments via the CPC-13 jig (J-6082-443-A). The following table lists the pin numbers and signal names of CN910.

Pin No.	Signal Name	Pin No.	Signal Name
1	SWP	11	EVF VCO
2	AFC F0	12	EVF VG
3	BPF MONI	13	DV RF SWP
4	RF AGC IN	14	RF IN
5	PB RF	15	CAP FG
6	REG GND	16	RF MON
7	RF AGC OUT	17	TMS
8	VC RF SWP	18	TCK
9	EVF BL	19	TDO
10	EVF BL 4.6V	20	TDI

Table 5-3-1.



Connect the measuring instruments as shown in Fig. 5-3-2 and perform the adjustments.



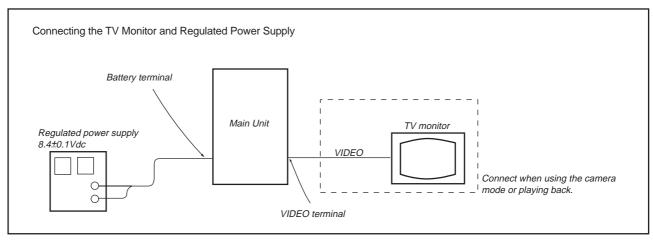


Fig. 5-3-2.

#### 3-1-5. Alignment Tape

The following table lists alignment tapes which are available. Use the tape specified in the signal column for each adjustment. If the type of tape to be used for checking operations is not specified, use whichever type.

#### Digital8 alignment tape

Name	Usage
SW/OL standard (WR5-2D)	Switching position adjustment
Audio operation check	Audio system adjustment
(WR5-3ND (NTSC),	
WR5-3CD (PAL))	
System operation check	Operation check
(WR5-5ND (NTSC),	
WR5-5CD (PAL))	
BIST check	BIST check
(WR5-6ND (NTSC),	
WR5-6CD (PAL))	

#### Hi8/standard 8 mm alignment tape

Name	Recording mode	Tape type	Tape speed	Usage	
Tracking	Standard 8 mm	MP	SP	Tape path adjustment, Switching position	
(WR5-1NP(NTSC), WR5-1CP(PAL))	Standard 8 mm			adjustment	
Video frequency characteristics	Hi8	ME	SP(NTSC)	Frequency characteristics adjustment	
(WR5-7NE(NTSC), WR5-7CE(PAL))	1110		LP(PAL)	rrequency characteristics adjustment	
Operation check	Standard 8 mm	MP	SP		
(WR5-5NSP(NTSC), WR5-5CSP(PAL))	) Standard & Hilli		51		
Operation check	Hi8	ME	SP		
(WR5-8NSE(NTSC), WR5-8CSE(PAL))				Operation check	
Operation check	Standard 8 mm	MP	LP	- Operation check	
(WR5-4NL(NTSC), WR5-4CL(PAL))	Standard 6 mm				
Operation check	Hi8	ME	LP		
(WR5-8NLE(NTSC), WR5-8CLE(PAL)	THO WIL		Li		
AFM stereo operation check	Standard 8 mm	MP	SP	AFM stereo Operation check	
WR5-9NS(NTSC), WR5-9CS(PAL)				711 111 Storeo Operation check	
BPF adjustment	Standard 8 mm	MP	SP	BPF adjustment	
WR5-11NS(NTSC), WR5-11CS(PAL)	Standard 6 mm	1411	51	Dir adjustment	

Tape type

ME ....... Particle type metal tape MP ....... Evaporated type metal tape

Table. 5-3-2.

Fig. 5-3-3. Shows the color bar signals recorded on the alignment tape.

**Note :** Measure using the VIDEO terminal (Terminated at 75  $\Omega$ ).

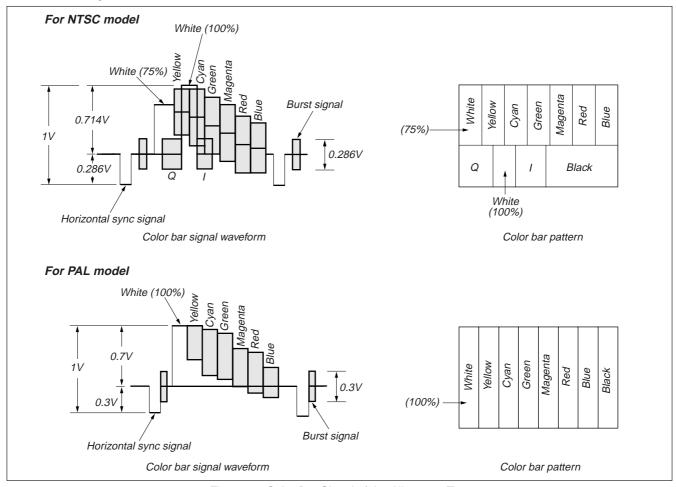


Fig. 5-3-3. Color Bar Signal of the Alignment Tape

#### 3-1-6. Input/output Level and Impedance

Video input/output

Phono jack, 1Vp-p,  $75\Omega$ , unbalanced, sync negative

S video input/output

4-pin mini DIN

Luminance signal:

1Vp-p, 75 $\Omega$ , unbalanced, sync negative

Chrominance signal:

0.286Vp-p,  $75\Omega$ , unbalanced (NTSC)

0.300Vp-p,  $75\Omega$ , unbalanced (PAL)

Audio input/output

Phono jack:

Input: -7.5dBs, input impedance more than  $47k\Omega$ 

Output: -7.5dBs, (at load impedance  $47k\Omega$ ), output impedance less than  $2.2k\Omega$ 

#### 3-2. SYSTEM CONTROL SYSTEM ADJUSTMENT

#### 1. Initialization of C, D, E, F Page Data

If the C, D, E, F page data is erased due to some reason, perform "1-2. INITIALIZATION OF C, D, E, F PAGE DATA", of "5-1. CAMERA SECTION ADJUSTMENT"

#### 2. Battery End Adjustment (VC-213 board)

Set the battery end voltage.

If the voltage is incorrect, the life of the battery will shorten.

The image at the battery end will also be rough.

Mode	Camera recording	
Subject	Arbitrary	
Measurement Point	LCD display of the adjustment remote commander	
Measuring Instrument		
Adjustment Page	D	
Adjustment Address	30 to 34	

Note 1: The lens block and cabinet (R) must be connected.

#### Switch setting

1)	AUTO FOCUSOFF
2)	LCD screen (TRV model)
3)	NIGHT SHOTOFF
	Note 2: TRV model:DCR-TRV103/TRV110/TRV110E/TRV110P/
	TRV203/TRV210/TRV210E/TRV310/
	TRV310E/TRV310P/TRV315

#### **Connection:**

1) Connect the regulated power supply and the digital voltmeter to the battery terminal as shown in Fig. 5-3-4.

#### Adjusting method:

- 1) Adjust the output voltage of the regulated power supply so that the digital voltmeter display is  $6.1 \pm 0.1 Vdc$ .
- 2) Turn off the power supply.
- 3) Turn on the HOLD switch of the adjustment remote commander.
- 4) Turn on the power supply.
- 5) Load a cassette, and set to the camera recording mode.
- 6) Select page: 0, address: 01, and set data: 01.
- 7) Decrease the output voltage of the regulated power supply so that the digital voltmeter display is  $5.30 \pm 0.01 Vdc$ .
- 8) Select page: 2, address: 5D, read the data, and this data is named Dref.
- Select page: D, address: 30, set data: Dref, and press the PAUSE button of the adjustment remote commander.
- Convert Dref to decimal notation, and obtain Dref'. (Refer to Table 5-4-1. "Hexadecimal-decimal conversion table" of "5-4. Service Mode".)
- 11) Calculate  $D_{31}$ ',  $D_{32}$ ',  $D_{33}$ ' and  $D_{34}$ ' using following equations (decimal calculation), convert it to a hexadecimal number, and input each adjustment address.

**Note 3:** After setting each data, be sure to press the PAUSE button.

12) Select page: 0, address: 01, and set data: 00.

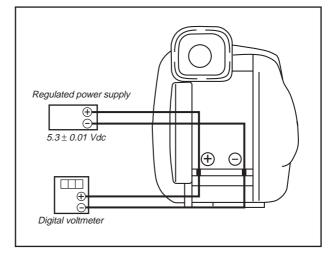


Fig. 5-3-4.

#### 3-3. SERVO AND RF SYSTEM ADJUSTMENTS

Before perform the servo and RF system adjustments, check that the specified value of "27 MHz/36MHz Origin Oscillation Adjustment" and "Hi8/standard 8mm 14 MHz Origin Oscillation Adjustment" of "3-4. VIDEO SYSTEM ADJUSTMENT" is satisfied.

#### **Adjusting Procedure:**

- 1. PLL fo & LPF fo Pre-adjustment
- 2. Switching position adjustment
- 3. AGC center level adjustment
- 4. APC & AEQ adjustment
- 5. PLL fo & LPF fo final adjustment
- 6. Hi8/standard 8mm Switching Position Adjustment
- 7. CAP FG Offset Adjustment

#### 1. PLL fo & LPF fo Pre-adjustment (VC-213 board)

Mode	VTR stop
Measurement Point	Display data of page: 3, address: 03
Measuring Instrument	Adjustment remote commander
Adjustment Page	С
Adjustment Address	1F, 20, 22, 47
Specified Value	Bit values of bit 2, bit 3 and bit 6 are "0"

#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- Select page: 3, address: 01, set data: 30, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 3, address: 02, and check that the data changes to "00".
- 4) Select page: 3, address: 03, and check that bit values of bit2, bit3 and bit6 are "0".

If bit value of bit 2, bit 3 or bit 6 is "1", there are errors. (For the error contents, see the following table. For the bit values, refer to "5-4. SERVICE MODE", "4-3. 3. Bit value discrimination".)

Bit value of page: 3,	Error contents	
address: 03		
bit 6 = 1	LPF fo adjustment is defective	
bit 3 = 1	PLL fo, fine adjustment is defective	
bit 2 = 1	PLL fo, fine adjustment is defective	

If bit value of bit 2 or bit 3 is "1", select page: C, address: 21, set the following data, and press the PAUSE button, and repeat steps 2) to 4).

	Setting data
When the data of page: C, address: 21 is "CA".	CE
When the data of page: C, address: 21 is "CE".	C6
When the data of page: C, address: 21 is "C6".	D2
When the data of page: C, address: 21 is "D2"	C2

5) Select page: 0, address: 01, and set data: 00.

#### 2. Switching Position Adjustment (VC-213 board)

To obtain normal playback waveform output, adjust the switching position.

1	
Mode	VTR playback
Signal	Digital8 alignment tape : SW/OL standard (WR5-2D)
Measurement Point	Display data of page: 3, address: 03
Measuring Instrument	Adjustment remote commander
Adjustment Page	С
Adjustment Address	10, 11, 12, 13
Specified Value	00

#### Adjusting method:

- Insert the Digital8 SW/OL reference tape and enter the VTR STOP mode.
- 2) Select page: 0, address: 01, and set data: 01.
- 3) Select page: 3, address: 21, and check that the data is "02".

**Note:** If the data of page: 3, address: 21 is other than "72", the tape top being played. After playing the tape for 1 to 2 seconds, perform step 4) and higher.

- 4) Select page: 3, address: 01, set data: 0D, and press the PAUSE button of the adjustment remote commander.
- 5) Select page: 3, address: 02, and check that the data changes to "00".
- Select page: 3, address: 03, and check that the data is "00".

Note: If bit 0 of page: 3, address: 03 data is "1", the A channel is defective. If bit 1 is "1", the B channel is defective. Contents of the defect is written into page: C, addresses: 10 and 12. See the following table. (For the bit values, refer to "5-4. SERVICE MODE", "4-3. 3. Bit value discrimination".)

7) Select page: 0, address: 01, and set data: 00.

#### When the A channel is defective

Data of page: C, address: 10	Contents of defect
EE	Writing into EEPROM (IC402) is defective
E8	Adjustment data is out of range
E7	No data is returned from IC104 (TRX)

#### When the B channel is defective

Data of page: C, address: 12	Contents of defect
E8	Adjustment data is out of range
E7	No data is returned from IC104 (TRX)

#### 3. AGC Center Level Adjustment (VC-213 board)

Mode	Camera record and playback
Subject	Arbitrary
Measurement Point	Pin (18) of CN910 (RF MON) (Note 1) External trigger: Pin (13) of CN910 (DV RF SWP)
Measuring Instrument	Oscilloscope
Adjustment Page	С
Adjustment Address	1E
Specified Value	The display data of page: 3, address: 03 is "00"

**Note 1:** Connect a 75 $\Omega$  resistor between Pin (6) and Pin (6) (GND) of CN910. 75 $\Omega$  resistor (Parts code: 1-247-804-11)

#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- Select page: C, address: 54, set data: C8, and press the PAUSE button of the adjustment remote commander.
- 3) Record the camera signal for a minute.
- 4) Select page: 2, address: 2E, and set data: 01.
- 5) Playback the recorded segment.
- 6) Select page: 3, address: 33, and set data: 08.
- 7) Confirm that the playback RF signal is stable.
- 8) Select page: 3, address: 01, set data: 23, and press the PAUSE button
- 9) Select page: 3, address: 02, and check that the data is "00".
- 10) Select page: 3, address: 03, and check that the data is "00".Note 2: If the data of page: 3, address: 03 is other than "00", adjustment has errors.
- 11) Select page: 3, address: 33, and set data: 00.
- 12) Select page: 2, address: 2E, and set data: 00.
- 13) Select page: C, address: 54, set data: CC, and press the PAUSE button.
- 14) Select page: 0, address: 01, and set data: 00.

#### 4. APC & AEQ Adjustment (VC-213 board)

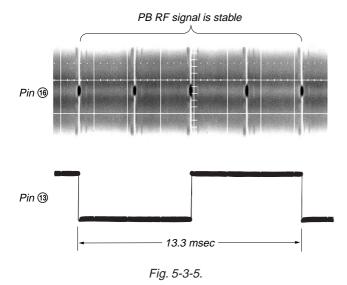
Mode	Camera record and playback
Subject	Arbitrary
Measurement Point	Pin (18) of CN910 (RF MON) (Note 1) External trigger: Pin (13) of CN910 (DV RF SWP)
Measuring Instrument	Oscilloscope
Adjustment Page	С
Adjustment Address	18, 19, 1B, 1C, 21, 73
Specified Value	The display data of page: 3, address: 03 is "00"

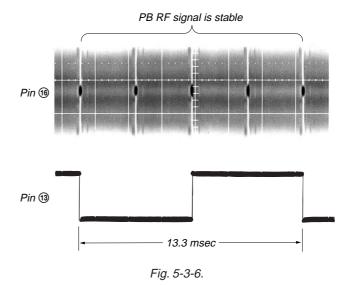
**Note 1:** Connect a 75 $\Omega$  resistor between Pin (6) and Pin (6) (GND) of CN2904. 75 $\Omega$  resistor (Parts code: 1-247-804-11)

Note 2: Use a Hi8 MP tape.

#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: C, address: 54, set data: C8, and press the PAUSE button of the adjustment remote commander.
- 3) Record the camera signal for a minute.
- 4) Select page: 2, address: 2E, and set data: 01.
- 5) Playback the recorded segment.
- 6) Select page: 3, address: 33, and set data: 08.
- 7) Confirm that the playback RF signal is stable.
- 8) Select page: 3, address: 01, set data: 07, and press the PAUSE button.
- Select page: 3, address: 02, and check that the data changes from "07" to "00" in about 20 seconds after pressing the PAUSE button
- Select page: 3, address: 03, and check that the data is "00".Note 3: If the data of page: 3, address: 03 is other than "00", adjustment has errors.
- 11) Select page: 3, address: 33, and set data: 00.
- 12) Select page: 2, address: 2E, and set data: 00.
- 13) Select page: C, address: 54, set data: CC, and press the PAUSE button.
- 14) Select page: 0, address: 01, and set data: 00.





#### 5. PLL fo & LPF fo Final Adjustment (VC-213 board)

Mode	VTR stop
Signal	Arbitrary
Measurement Point	Display data of page: 3, address: 03
Measuring Instrument	Adjustment remote commander
Adjustment Page	С
Adjustment Address	1F, 20, 22, 47
Specified Value	Bit values of bit2, bit3 and bit6 are "0"

#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 01, set data: 30, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 3, address: 02, and check that the data changes to "00"
- 4) Select page: 3, address: 03, and check that bit values of bit2, bit3 and bit6 are "0".

If bit value of bit 2, bit 3 or bit 6 is "1", there are errors. (For the error contents, see the following table. For the bit values, refer to "5-4. SERVICE MODE", "4-3. 3. Bit value discrimination".)

Bit value of page: 3, address: 03	Error contents
bit 6 = 1	LPF fo adjustment is defective
bit 3 = 1	PLL fo, fine adjustment is defective
bit 2 = 1	PLL fo, fine adjustment is defective

5) Select page: 0, address: 01, and set data: 00.

# 6. Hi8/standard 8mm Switching Position Adjustment (VC-213 board)

If deviated in this case causes switching noise or jitter on the Hi8/standard 8mm mode played back screen.

Mode	Playback
Signal	Hi8/standard 8mm alignment tape: For tracking adjustment (WR5-1NP(NTSC)) (WR5-1CP(PAL))
Measurement Point	CH1: Pin (8) of CN910 (VC RF SWP) CH2: Pin (5) of CN910 (PB RF)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	3E, 3F
Specified Value	$t1=0 \pm 10 \mu sec$

#### **Adjusting Method:**

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: F, address: 2C, set data: 20, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 2, address: 2E, and set data: 02.
- 4) Set to the playback mode.
- Select page: F, address: 3E, change the data and minimize "t1", and then press the PAUSE button. (Coarse adjustment)
- Select page: F, address: 3F, change the data and adjust so that the switching position (t1) becomes the specified value. (Fine adjustment)
- Press the PAUSE button.
- 8) Select page: F, address: 2C, set data: 00, and press the PAUSE button
- 9) Select page: 2, address: 2E, and set data: 00.
- 10) Select page: 0, address: 01, and set data: 00.

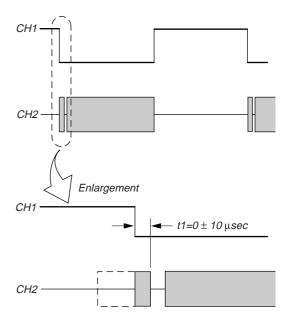


Fig. 5-3-7.

#### 7. CAP FG Offset Adjustment (VC-213 board)

Improve the capstan servo characteristic. If it is not correct, jitters will increase.

Mode	Playback
Signal	Hi8/standard 8mm alignment tape :
	For checking operation
	(WR5-5NSP(NTSC))
	(WR5-5CSP(PAL))
Measurement Point	Pin (5) of CN910 (CAP FG)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	61
Specified value	Duty = 50 ± 1 %

#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 2, address: 2E, and set data: 02.
- 3) Set to the playback mode.
- Select page: 6, address: 01, set data: 81, and press the PAUSE button of the adjustment remote commander. (to start up automatic CAP FG offset adjustment.)
- 5) Select page: 6, address: 02, and check that the data is "01".
- 6) Check that Duty of CAP FG signal satisfies the specified value. If not, select page: 6, address: 01, set data: 00, and press the PAUSE button, and then, repeat steps 4) to 6).
- 7) Select page: 6, address: 01, set data: 00, and press the PAUSE button
- 3) Select page: 2, address: 2E, and set data: 00.
- 9) Select page: 0, address: 01, and set data: 00.

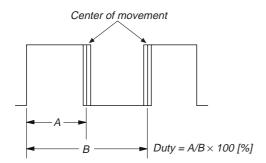


Fig. 5-3-8.

#### 3-4. VIDEO SYSTEM ADJUSTMENTS

#### 3-4-1. Video System Adjustments

#### **Adjusting Procedure:**

- 1. 27MHz/36MHz origin oscillation adjustment
- 2. Chroma BPF fo adjustment
- 3. S VIDEO OUT Y Level Adjustment
- 4. S VIDEO OUT chroma level adjustment
- 5. VIDEO OUT Y, chroma level check
- 6. Hi8/standard 8mm 14 MHz origin oscillation adjustment
- 7. BBI PLL adjustment
- 8. Hi8/standard 8mm Y level adjustment
- 9. Hi8/standard 8mm chroma level adjustment
- 10. Hi8/standard 8mm AFC fo adjustment
- 11. Hi8/standard 8mm RP Filter fo adjustment

# 1. 27MHz/36MHz Origin Oscillation Adjustment (VC-213 board)

Set the oscillation frequency of X501.

If deviated, the synchronization will be disrupted and the color will become inconsistent.

**Note:** 27MHz ...... 720H model 36MHz ...... 960H model

 $720 H\ model:\ DCR-TR7000/TRV103/TRV110/TRV110P/TRV203/$ 

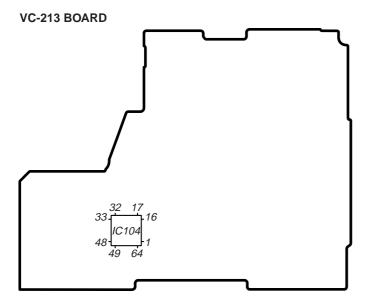
TRV210/TRV310/TRV310P/TRV315

960H model: DCR-TR7000E/TR7100E/TRV110E/TRV210E/ TRV310E

Mode	Camera
Measurement Point	Pin (4) of IC104
Measuring Instrument	Frequency counter
Adjustment Page	F
Adjustment Address	40
Specified Value	f=13500000 ± 68Hz

#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: F, address: 40, change the data and set the clock frequency(f) to the specified value.
- 3) Press the PAUSE button of the adjustment remote commander.
- 4) Select page: 0, address: 01, and set data: 00.



#### 2. Chroma BPF fo Adjustment (VC-213 board)

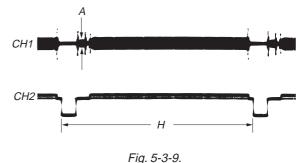
Set the center frequency of IC643 chroma band-pass filter.

Mode	VTR stop
Signal	No signal
Measurement Point	CH1: Chroma signal terminal of S VIDEO jack (75 $\Omega$ terminated) CH2: Y signal terminal of S VIDEO jack (75 $\Omega$ terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	С
Adjustment Address	2B
Specified Value	A = 100mVp-p or less B = 200mVp-p or more

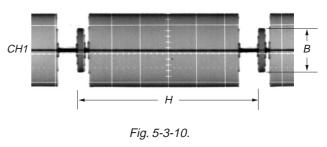
#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- Select page: D, address: 11, set data: 10, and press the PAUSE button of the adjustment remote commander.
- Check that the burst signal (B) is output to the chroma signal terminal of S VIDEO jack.
- 4) Select page: 3, address: 0C, set data: 04, and press the PAUSE button.
- Select page: C, address: 2B, and change the data for minimum amplitude of the burst signal level (A).
   (The data of address: 2B, should be "00" to "07".)
- Press the PAUSE button.
- 7) Select page: 3, address: 0C, set data: 00, and press the PAUSE button
- 8) Check that the burst signal level (B) satisfies the specified value.
- Select page: D, address: 11, set data: 00, and press the PAUSE button.
- 10) Select page: 0, address: 01, and set data: 00.

#### When the data of page: 3, address: 0C, is 04:



#### When the data of page: 3, address: 0C, is 00:



# 3. S VIDEO OUT Y Level Adjustment (VC-213 board)

Mode	Camera
Subject	Arbitrary
Measurement Point	Y signal terminal of S VIDEO jack (75 $\Omega$ terminated)
Measuring Instrument	Oscilloscope
Adjustment Page	С
Adjustment Address	25
Specified Value	$A = 1000 \pm 20 \text{mV}$

#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 2, address: 35. After note down the data of this address, set data: 01 to the address.
- 3) Select page: D, address: 11, set data: 10, and press the PAUSE button of the adjustment remote commander.
- 4) Select page: 3, address: 0C, set data: 02, and press the PAUSE button.
- 5) Select page: C, address: 25, change the data and set the Y signal level (A) to the specified value.
- 6) Press the PAUSE button.
- Select page: 3, address: 0C, set data: 00, and press the PAUSE button.
- Select page: D, address: 11, set data: 00, and press the PAUSE button.
- 9) Select page: 2, address: 35. and set the data that is noted down at step 2).
- 10) Select page: 0, address: 01, and set data: 00.

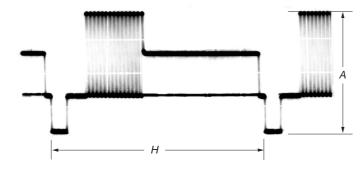


Fig. 5-3-11.

# 4. S VIDEO OUT Chroma Level Adjustment (VC-213 board)

(	
Mode	Camera
Subject	Arbitrary
Measurement Point	Chroma signal terminal of S VIDEO jack (75Ω terminated) External trigger: Y signal terminal of S VIDEO jack
Measuring Instrument	Oscilloscope
Adjustment Page	С
Adjustment Address	26, 27
Specified Value	Cr level: $A = 714 \pm 14 \text{mV}(\text{NTSC})$ $A = 700 \pm 14 \text{mV}(\text{PAL})$ Cb level: $B = 714 \pm 14 \text{mV}(\text{NTSC})$ $B = 700 \pm 14 \text{mV}(\text{PAL})$ Burst level: $C = 286 \pm 6 \text{mV}(\text{NTSC})$ $C = 300 \pm 6 \text{mV}(\text{PAL})$

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 2, address: 35. After note down the data of this address, set data: 01 to the address.
- Select page: D, address: 11, set data: 10, and press the PAUSE button of the adjustment remote commander.
- 4) Select page: 3, address: 0C, set data: 02, and press the PAUSE button.
- 5) Select page: C, address: 26, change the data and set the Cr signal level (A) to the specified value.
- 6) Press the PAUSE button.
- Select page: C, address: 27, change the data and set the Cb signal level (B) to the specified value.
- 8) Press the PAUSE button.
- Check that the burst signal level (C) is satisfied the specified value.
- 10) Select page: 3, address: 0C, set data: 00, and press the PAUSE button.
- 11) Select page: D, address: 11, set data: 00, and press the PAUSE button.
- 12) Select page: 2, address: 35. and set the data that is noted down at step 2).
- 13) Select page: 0, address: 01, and set data: 00.

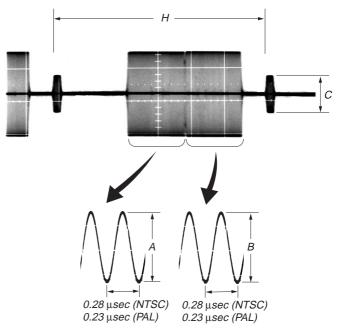


Fig. 5-3-12.

# 5. VIDEO OUT Y, Chroma Level Check (VC-213 board)

Mode	Camera	
Subject	Arbitrary	
Measurement Point	VIDEO jack (75Ω terminated)	
Measuring Instrument	Oscilloscope	
Specified Value	Sync level: $A = 286 \pm 18 \text{mV}(\text{NTSC})$	
	$A = 300 \pm 18 \text{mV}(PAL)$	
	Burst level: $B = 286 \pm 18 \text{mV}(NTSC)$	
	$B = 300 \pm 18 \text{mV(PAL)}$	

#### Adjusting method:

- 1) Select page: 0, address: 01, set data: 01.
- Select page: 2, address: 35. After note down the data of this address, set data: 01 to the address.
- 3) Select page: D, address: 11, set data: 10, and press the PAUSE button of the adjustment remote commander.
- 4) Select page: 3, address: 0C, set data: 02, and press the PAUSE button.
- 5) Check that the sync signal level (A) satisfies the specified value.
- 6) Check that the burst signal level (B) satisfies the specified value.
- Select page: 3, address: 0C, set data: 00, and press the PAUSE button.
- 8) Select page: D, address: 11, set data: 00, and press the PAUSE button.
- Select page: 2, address: 35. and set the data that is noted down at step 2).
- 10) Select page: 0, address: 01, set data: 00.

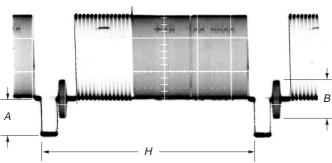


Fig. 5-3-13.

# 6. Hi8/standard 8mm 14 MHz Origin Oscillation Adjustment (VC-213 board)

Set the oscillation frequency of X251 for the Hi8/standard 8mm playback operation.

If deviated, the synchronization will be disrupted and the color will become inconsistent.

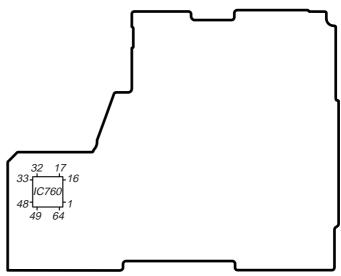
VTR stop
No signal
Pin ② of IC760
Frequency counter
F
41
f=3579545 ± 17Hz (NTSC) f=4433618 ± 22Hz (PAL)

#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- Select page: 3, address: 0D, set data: 06, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 6, address: 63, set data: 02.
- 4) Select page: 6, address: 6A, set data: 01.
- 5) Select page: 6, address: 6B, set data: 04.
- 6) Select page: 6, address: 6F, set data: 01.
- 7) Select page: F, address: 41, change the data and set the clock frequency (f) to the specified value.
- 8) Press the PAUSE button.

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- Select page: 3, address: 0D, set data: 00, and press the PAUSE button of the adjustment remote commander.
- 10) Select page: 6, address: 63, set data: 00.
- 11) Select page: 6, address: 6A, set data: 00.
- 12) Select page: 6, address: 6B, set data: 00.
- 13) Select page: 6, address: 6F, set data: 00.
- 14) Select page: 0, address: 01, and set data: 00.



#### 7. BBI PLL Adjustment (VC-213 board)

Set the VCO center level of the video input circuit (IC601).

Mode	VTR stop
Signal	No signal
Measurement Point	Display data of page: 3, address: 04
Measuring Instrument	Adjustment remote commander
Adjustment Page	F
Adjustment Address	42
Specified Value	08 or 09 or 0A

#### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- Select page: 3, address: 0D, set data: 04, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 6, address: 63, set data: 02.
- 4) Select page: 6, address: 6A, set data: 01.
- 5) Select page: 6, address: 6B, set data: 04.
- 5) Select page: 6, address: 6F, set data: 01.
- Select page: 3, address: 0C, set data: 80, and press the PAUSE button.
- Select page: F, address: 42, and set data: 00, and press the PAUSE button.
- 9) Select page: 3, address: 04, and check. If the data is "08" or "09" or "0A", proceed to step 12).
- 10) Select page: F, address: 42, add "10"(hexadecimal) to the data and press the PAUSE button.

**Note:** If the data of page: F, address: 42 is "F0", change the data to "FF", and press the PAUSE button.

- 11) Select page: 3, address: 04, and check the data satisfies the specified value. If not repeat steps 10) to 11).
- 12) Select page: 3, address: 0C, set data: 00, and press the PAUSE button.
- Select page: 3, address: 0D, set data: 00, and press the PAUSE button.
- 14) Select page: 6, address: 63, set data: 00.
- 15) Select page: 6, address: 6A, set data: 00.
- 16) Select page: 6, address: 6B, set data: 00.
- 17) Select page: 6, address: 6F, set data: 00.
- 18) Select page: 0, address: 01, and set data: 00.

# 8. Hi8/standard 8mm Y Level Adjustment (VC-213 board)

Set the Hi8/standard 8mm PB Y signal level. (Adjust the D/A converter out put level of IC251.)

Mode	VTR stop
Signal	No signal
Measurement Point	Y signal terminal of S VIDEO terminal (75 $\Omega$ terminated )
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	69
Specified Value	A=589 ± 5mV (NTSC) A=578 ± 5mV (PAL)

Note: Insert a plug into the S video terminal.

- 1) Close the cassette compartment without inserting a cassette.
- 2) Select page: 0, address: 01, and set data: 01.
- 3) Select page: F, address: 2C, set data: 01, and press the PAUSE button of the adjustment remote commander.
- Select page: D, address: 10, set data: 12, and press the PAUSE button.
- 5) Select page: 2, address: 10, set data: 02.
- 6) Select page: 2, address: 2E, set data: 02.
- 7) Set the playback mode without inserting a cassette.
- 8) Select page: 3, address: 0D, set data: 04, and press the PAUSE button.
- 9) Select page: 6, address: 63, set data: 02.
- 10) Select page: F, address: 69, change the data and set the level (A) between the pedestal and white to the specified value.
- 11) Press the PAUSE button.
- 12) Select page: F, address: 2C, set data: 00, and press the PAUSE button.
- 13) Select page: D, address: 10, set data: 00, and press the PAUSE button.
- 14) Select page: 2, address: 2E, set data: 00.
- 15) Select page: 3, address: 0D, set data: 00.
- 16) Select page: 6, address: 63, set data: 00.
- 17) Select page: 0, address: 01, and set data: 00.

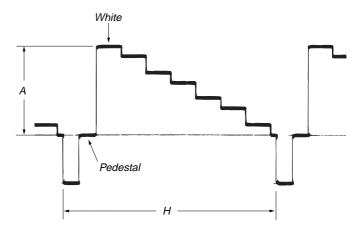


Fig. 5-3-14.

# 9. Hi8/standard 8mm Chroma Level Adjustment (VC-213 board)

Set the Hi8/standard 8mm PB Chroma signal level. (Adjust the D/ A converter out put level of IC251.)

Mode	VTR stop
Signal	No signal
Measurement Point	Chroma signal terminal of S VIDEO terminal (75 $\Omega$ terminated ) External trigger : Y signal terminal of S VIDEO terminal
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	6B
Specified Value	A=286 ± 5mV (NTSC) A=300 ± 5mV (PAL)

Note: Insert a plug into the S video terminal.

### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- Select page: D, address: 11, set data: 10, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 6, address: 61, set data: 30.
- 4) Select page: 3, address: 0D, set data: 02, and press the PAUSE button.
- 5) Select page: 6, address: 6F, set data: 01.
- 6) Select page: F, address: 6B, change the data and set the burst level (A) to the specified value.
- 7) Press the PAUSE button.
- Select page: D, address: 11, set data: 00, and press the PAUSE button.
- 9) Select page: 3, address: 0D, set data: 00, and press the PAUSE button.
- 10) Select page: 6, address: 61, set data: 00.
- 11) Select page: 6, address: 6F, set data: 00.
- 12) Select page: 0, address: 01, and set data: 00.

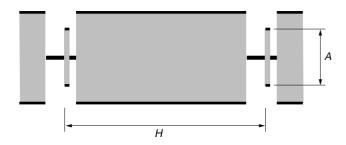


Fig. 5-3-15.

# 10. Hi8/standard 8mm AFC f<sub>0</sub> Adjustment (VC-213 board)

Adjust the pull-in range of the clock generator (IC251) for A/D conversion during Hi8/standard 8mm playback.

Mode	VTR stop	
Signal	No signal	
Measurement Point	Pin ② of CN910 (AFC f0)	
Measuring Instrument	Digital voltmeter	
Adjustment Page	F	
Adjustment Address	6A	
Specified Value	A=2.00 ± 0.05Vdc	

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 0D, set data: 04, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: 6, address: 63, set data: 04.
- 4) Select page: 6, address: 6F, set data: 01.
- 5) Select page: F, address: 6A, change the data and set the DC voltage (A) to the specified value.
- 6) Press the PAUSE button.
- 7) Select page: 3, address: 0D, set data: 00, and press the PAUSE button
- 8) Select page: 6, address: 63, set data: 00.
- 9) Select page: 6, address: 6F, set data: 00.
- 10) Select page: 0, address: 01, and set data: 00.

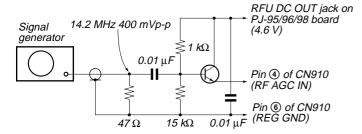
# 11. Hi8/standard 8mm RP Filter f₀ Adjustment (VC-213 board)

Adjust the LPF of the playback RF amplifier (IC201).

	<u> </u>
Mode	VTR stop
Signal	No signal
Measurement Point	Pin 7 of CN910 (RF AGC OUT)
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	6E
Specified Value	A= Minimum

# **Connection:**

 Input a 14.2MHz, 400mVp-p CW signal to Pin 4 of CN910 (RF AGC IN).



Transistor: General NPN transistor (2SC403, etc)

 $47 \Omega \ resistor$  : 1-249-401-11 1  $k \Omega \ resistor$  : 1-249-417-11 15  $k \Omega \ resistor$  : 1-249-431-11 0.01  $\mu F \ capacitor$  : 1-101-004-00

Fig. 5-3-16.

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 6, address: 61, set data: 04.
- 3) Select page: 6, address: 6F, set data: 01.
- 4) Select page: F, address: 6E, change the data and minimize the 14.2MHz signal level (A).
- 5) Press the PAUSE button of the adjustment remote commander.
- 6) Select page: 6, address: 61, set data: 00.
- 7) Select page: 6, address: 6F, set data: 00.
- 8) Select page: 0, address: 01, and set data: 00.



Fig. 5-3-17.

#### 3-4-2. BIST Check

#### 1. Playback System Check

#### 1-1. Preparation for Playback

- Set the POWER switch to VTR (or PLAYER) position. 1)
- Connect the adjusting remote commander and set the HOLD switch to ON (SERVICE) position.
- Playback the BIST check tape. (WR5-6ND(NTSC), WR5-6CD(PAL))

**Note:** Perform the following checks in the playback mode.

#### 1-2. IC104(TRX) BIST(PB) Check

- Select page: 3, address: 12, set data: 04, and press the PAUSE
- 2) Select page: 3, address: 12, set data: 00, and press the PAUSE button.
- Select page: 3, address: 13, set data: 02, and press the PAUSE 3) button.
- When the playback system from IC104(TRX) to IC302(TFD) 4) is normal, the display data (combination data) of page: 3, address: 16 and 17 agrees with any combination as shown below.

#### **NTSC** model

Address		Data	
16	63	75	59
17	84	07	01

#### PAI model

Address		Data	
16	86	AA	90
17	35	33	В6

# 1-3. IC302(TFD) BIST(PB) Check

- 1) Select page: 3, address: 40, set data: 0F, and press the PAUSE
- Select page: 3, address: 40, set data: 00, and press the PAUSE 2)
- When the playback system from IC302(TFD) to IC301(SFD) is normal, the display data (combination data) of page: 3, address: 41 and 42 agrees with any combination as shown below.

NTSC model

Address	Data
41	26
42	A1

PA	L mo	del
Ad	dress	D

Address	Data
41	69
42	73

# 1-4. IC301(SFD) BIST(PB) Check

- Select page: 0, address: 01, and set data: 01.
- Select page: C, address: AC, set data: 21, and press the PAUSE 2)
- Select page: C, address: AD, set data: 01 (NTSC) or data: 03 (PAL), and press the PAUSE button.
- Select page: 3, address: 11, set data: 04, and press the PAUSE button.
- Select page: 3, address: 12, set data: 08, and press the PAUSE button.
- Select page: 3, address: 12, set data: 00, and press the PAUSE
- Select page: 3, address: 13, set data: 03, and press the PAUSE button.

When the playback system from IC301(SFD) to IC702 (ADC&DAC) is normal, the display data (combination data) of page: 3, address: 14 and 15 agrees with any combination as shown below.

N 13C model		
Address	Data	
14	41	
15	81	

PAI model

Address	Data
14	2D
15	7C

When the playback system from IC301(SFD) to IC303(LIP) is normal, the display data (combination data) of page: 3, address: 16 and 17 agrees with any combination as shown below.

NTSC model

Address	Data
16	E4
17	B5

PAL model

Address	Data
16	1C
17	A6

10) When the playback system from IC302(TFD) to IC301(SFD) is normal, the display data (combination data) of page: 3, address: 18 and 19 agrees with any combination as shown below.

NTSC model

Data
72
F8

PAL model

Address	Data
18	CC
19	A7

- 11) Select page: 3, address: 11, set data: 80, and press the PAUSE button.
- 12) Select page: 3, address: 12, set data: 08, and press the PAUSE
- 13) Select page: 3, address: 12, set data: 00, and press the PAUSE button.
- 14) Select page: 3, address: 13, set data: 03, and press the PAUSE button.
- 15) When the playback system from IC302(TFD) to IC301(SFD) is normal, the display data (combination data) of page: 3, address: 18 and 19 agrees with any combination as shown below.

N13C model	
Address	Data
18	E6
19	C3

PAI model

I AL IIIOGCI	
Address	Data
18	DB
19	C0

16) When the playback system from IC301(SFD) to IC351(VFD) is normal, the display data (combination data) of page: 3, address: 1A and 1B agrees with any combination as shown below.

NTSC model

N 13C IIIOGEI		
Address	Data	
1A	12	
1B	43	

PAL model

Address	Data
1A	90
1B	CE

- 17) Select page: C, address: AC, set data: 20, and press the PAUSE
- 18) Select page: C, address: AD, set data: 00 (NTSC) or data: 02 (PAL), and press the PAUSE button.
- 19) Select page: 0, address: 01, and set data: 00.

### 1-5. IC351(VFD) BIST(PB) Check

- 1) Select page: 0, address: 01, and set data: 01.
- Select page: C, address: 51, set data: 0F, and press the PAUSE button

# • VBUS/EX BIST(PB) Check

- 3) Select page: 3, address: 10, set data: 00, and press the PAUSE button
- Select page: 3, address: 12, set data: 10, and press the PAUSE button.
- Select page: 3, address: 12, set data: 00, and press the PAUSE button
- Select page: 3, address: 13, set data: 04, and press the PAUSE button
- 7) When the playback system from IC301(SFD) to IC351(VFD) is normal, the display data (combination data) of page: 3, address: 14 and 15 agrees with any combination as shown below.

#### NTSC model

Address	
14	12
15	43

PAL model			
Address	Data		
14	90		
15	CE		

8) When the playback system from IC351(VFD) to IC251 is normal, the display data (combination data) of page: 3, address: 16 and 17 agrees with any combination as shown below.

#### NTSC model

Address	Data
16	FB
17	F4

D.4						
PA	L	m	o	a	е	

Address	Data
16	54
17	ED

#### • UPY Y BIST(PB) Check

- 9) Select page: 3, address: 10, set data: 88, and press the PAUSE button
- Select page: 3, address: 12, set data: 10, and press the PAUSE button.
- 11) Select page: 3, address: 12, set data: 00, and press the PAUSE button
- 12) Select page: 3, address: 13, set data: 04, and press the PAUSE button.
- 13) When the playback system from IC351(VFD) to IC4501,5502 (LCD DRIVER) is normal, the display data (combination data) of page: 3, address: 16 and 17 agrees with any combination as shown below.

#### NTSC model

11100 1110001		
Address	Data	
16	9A	
17	13	

#### PAL model

Address	Data	
16	03	
17	C9	

### • UPY Cr BIST(PB) Check

- 14) Select page: 3, address: 10, set data: 89, and press the PAUSE button.
- 15) Select page: 3, address: 12, set data: 10, and press the PAUSE button.
- 16) Select page: 3, address: 12, set data: 00, and press the PAUSE button.
- 17) Select page: 3, address: 13, set data: 04, and press the PAUSE button
- 18) When the playback system from IC351(VFD) to IC4501,5502 (LCD DRIVER) is normal, the display data (combination data) of page: 3, address: 16 and 17 agrees with any combination as shown below.

### NTSC model

Address	Data
16	1C
17	60

PAL model

I AL IIIOGEI		
Address	Data	
16	14	
17	A7	

### • UPY Cb BIST(PB) Check

- 19) Select page: 3, address: 10, set data: 8A, and press the PAUSE button
- 20) Select page: 3, address: 12, set data: 10, and press the PAUSE button.
- 21) Select page: 3, address: 12, set data: 00, and press the PAUSE button.
- 22) Select page: 3, address: 13, set data: 04, and press the PAUSE button.
- 23) When the playback system from IC351(VFD) to IC4501,5502 (LCD DRIVER) is normal, the display data (combination data) of page: 3, address: 16 and 17 agrees with any combination as shown below.

NTSC model

N15C model		
Address	Data	
16	92	
17	5A	

PAI model

AL IIIOGEI		
Address	Data	
16	В8	
17	67	

#### • ENC Ya BIST(PB) Check

- 24) Select page: 3, address: 10, set data: 8B, and press the PAUSE button.
- 25) Select page: 3, address: 12, set data: 10, and press the PAUSE button.
- 26) Select page: 3, address: 12, set data: 00, and press the PAUSE button.
- 27) Select page: 3, address: 13, set data: 04, and press the PAUSE button.
- 28) When the playback system from IC351(VFD) to IC643 (AOI) is normal, the display data (combination data) of page: 3, address: 16 and 17 agrees with any combination as shown below.

NTSC model

Address	Data
16	3C
17	D2

PAL model

Address	Data
16	69
17	21

# • ENC Yb BIST(PB) Check

- 29) Select page: 3, address: 10, set data: 8C, and press the PAUSE button
- 30) Select page: 3, address: 12, set data: 10, and press the PAUSE button.
- 31) Select page: 3, address: 12, set data: 00, and press the PAUSE button.
- 32) Select page: 3, address: 13, set data: 04, and press the PAUSE button.
- 33) When the playback system from IC351(VFD) to IC643 (AOI) is normal, the display data (combination data) of page: 3, address: 16 and 17 agrees with any combination as shown below.

NTSC model

N 13C IIIOGEI			
Address	Data		
16	83		
17	9E		

PAL model

Address	Data			
16	CC			
17	ED			

# • ENC Ca BIST(PB) Check

- 34) Select page: 3, address: 10, set data: 8D, and press the PAUSE button.
- 35) Select page: 3, address: 12, set data: 10, and press the PAUSE button.
- 36) Select page: 3, address: 12, set data: 00, and press the PAUSE button.
- 37) Select page: 3, address: 13, set data: 04, and press the PAUSE button.
- 38) When the playback system from IC351(VFD) to IC643 (AOI) is normal, the display data (combination data) of page: 3, address: 16 and 17 agrees with any combination as shown below.

NTSC model

Address	Data		
16	FE	22	
17	68	CA	

PAL model

Address	Data		
16	70	43	
17	D5	E4	

#### • ENC Cb BIST(PB) Check

- 39) Select page: 3, address: 10, set data: 8E, and press the PAUSE button.
- 40) Select page: 3, address: 12, set data: 10, and press the PAUSE button.
- 41) Select page: 3, address: 12, set data: 00, and press the PAUSE button.
- 42) Select page: 3, address: 13, set data: 04, and press the PAUSE button.
- 43) When the playback system from IC351(VFD) to IC643 (AOI) is normal, the display data (combination data) of page: 3, address: 16 and 17 agrees with any combination as shown below.

NTSC model

Address	Data		
16	B2	DE	
17	E7	EE	

PAL model

Address	Da	ıta
16	ED	9A
17	CB	1E

- 44) Select page: C, address: 51, set data: 03, and press the PAUSE button.
- 45) Select page: 0, address: 01, and set data: 00.

#### 2. Recording System Check

#### 2-1. Preparations for recording

- Playback the BIST check tape.(WR5-6ND(NTSC), WR5-6CD(PAL))
- Select page: 3, address: 10, set data: C0, and press the PAUSE button.
- Select page: 3, address: 11, set data: 07, and press the PAUSE button.
- 4) Enter the stop mode.
- 5) While keep the HOLD switch of the adjusting remote commander at ON(SERVICE) position, eject the BIST check tape and insert a tape for recording in place of the tape.
- 6) Enter the camera recording mode.

**Note:** Perform the following checks in the camera recording mode.

### 2-2. IC351(VFD) BIST(REC) Check

- 1) Select page: 3, address: 12, set data: 10, and press the PAUSE button
- Select page: 3, address: 12, set data: 00, and press the PAUSE button.
- Select page: 3, address: 13, set data: 04, and press the PAUSE button.
- 4) When the recording system from IC351(VFD) to IC301(SFD) is normal, the display data (combination data) of page: 3, address: 14 and 15 agrees with any combination as shown below.

#### NTSC model

Address	Data
14	D5
15	0B

#### PAL model

Address	Data
14	34
15	8A

# 2-3. IC301(SFD) BIST(REC) Check

- 1) Select page: 0, address: 01, and set data: 01.
- Select page: C, address: AC, set data: 21, and press the PAUSE button.
- 3) Select page: C, address: AD, set data: 01 (NTSC) or data: 03 (PAL), and press the PAUSE button.
- 4) Select page: 3, address: 12, set data: 08, and press the PAUSE button.
- 5) Select page: 3, address: 12, set data: 00, and press the PAUSE button.
- 6) Select page: 3, address: 13, set data: 03, and press the PAUSE button.
- 7) When the recording system from IC301(SFD) to IC303(LIP) is normal, the display data (combination data) of page: 3, address: 16 and 17 agrees with any combination as shown below

### NTSC model

Address	Data			
16	00	BC	4C	F0
17	15	CE	CF	14

#### PAL model

Address	Data			
16	2D	A2	61	EE
17	F5	7B	2F	1A

8) When the recording system from IC301(SFD) to IC302(TFD) is normal, the display data (combination data) of page: 3, address: 18 and 19 agrees with any combination as shown below.

### NTSC model

Address	Data			
18	F7	4F	54	EC
19	F6	69	80	1F

### PAL model

Address	Data			
18	6C	23	01	4E
19	C7	76	0E	BF

- 9) Select page: 3, address: 11, set data: 87, and press the PAUSE button.
- 10) Select page: 3, address: 12, set data: 08, and press the PAUSE button.
- 11) Select page: 3, address: 12, set data: 00, and press the PAUSE button.
- 12) Select page: 3, address: 13, set data: 03, and press the PAUSE button
- 13) When the recording system from IC301(SFD) to IC302(TFD) is normal, the display data (combination data) of page: 3, address: 18 and 19 agrees with any combination as shown below

# NTSC model

Address	Data			
18	C2	49		
19	DB	21		

PA	L	m	0	d	е	l

Address	Data			
18	F3	80		
19	CA	79		

14) When the recording system from IC351(VFD) to IC301(SFD) is normal, the display data (combination data) of page: 3, address: 1A and 1B agrees with any combination as shown below.

NTSC model			
Address	Data		
1A	D5		
1B	0B		

PAL model				
Address	Data			
1A	34			
1B	8A			

- 15) Select page: C, address: AC, set data: 20, and press the PAUSE button.
- 16) Select page: C, address: AD, set data: 00 (NTSC) or data: 02 (PAL), and press the PAUSE button.
- 17) Select page: 0, address: 01, and set data: 00.

#### 2-4. IC302(TFD) BIST(REC) Check

- Select page: 3, address: 40, set data: 0F, and press the PAUSE button.
- 2) Select page: 3, address: 40, set data: 00, and press the PAUSE button
- When the recording system from IC301(SFD) to IC302(TFD) is normal, the display data (combination data) of page: 3, address: 41 and 42 agrees with any combination as shown below.

# NTSC model

Address	Data			
41	C2	7A	61	D9
42	42	DD	34	AB

PAL model

Address	Data			
41	55	1A	38	77
42	B5	04	7C	CD

4) When the recording system from IC302(TFD) to IC104(TRX) is normal, the display data (combination data) of page: 3, address: 43 and 44 agrees with any combination as shown below.

### NTSC model

14100 model					
Address	Data				
43	18	C8	E0	57	
44	F0	FB	02	D6	

PAL model

Address	Data			
43	F6	A2	48	81
44	2A	E3	49	3D

# 2-5. IC104(TRX) BIST(REC) Check

- 1) Select page: 3, address: 12, set data: 04, and press the PAUSE button.
- Select page: 3, address: 12, set data: 00, and press the PAUSE 2) button.
- Select page: 3, address: 13, set data: 02, and press the PAUSE
- 4) When the recording system from IC302(TFD) to IC104(TRX) is normal, the display data (combination data) of page: 3, address: 14 and 15 agrees with any combination as shown below.
  NTSC model

N 13C IIIOUEI					
Address	Data				
14	96	BC			
15	D1	0E			

PAL model

Address	Data		
14	27	В5	
15	8D	61	

# 3-5. IR TRANSMITTER ADJUSTMENTS

Adjust using a IR receiver jig (J-6082-383-A).

#### **Switch setting:**

LASER LINK ..... ON (Red LED is lit)

# 1. IR Video Carrier Frequency Adjustment (VC-213 board)

Mode	VTR stop
Signal	No signal
Measurement Point	Pin (5) of CN003 of IR receiver jig (RF) (Or Pin (6) of IC644 of VC-213 board)
Measuring Instrument	Frequency counter
Adjustment Page	F
Adjustment Address	68
Specified Value	$f = 11.85 \pm 0.05 \text{ MHz}$

# **Connection of Equipment**

Connect the measuring device as shown in the following figure, and adjust.

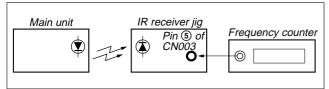


Fig. 5-3-18.

### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: 3, address: 0C, set data: 08, and press the PAUSE button of the adjustment remote commander.
- 3) Select page: F, address: 68, change the data, and set the video carrier frequency (f) to the specified value.
- 4) Press the PAUSE button.
- 5) Select page: 3, address: 0C, set data: 00, and press the PAUSE button.
- 6) Select page: 0, address: 01, and set data: 00.

# 2. IR Video Deviation Adjustment (VC-213 board)

Mode	VTR stop
Signal	No signal
Measurement Point	VIDEO OUT terminal of IR receiver jig (Terminated at $75\Omega$ )
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	66
Specified Value	$A = 0.82 \pm 0.04 \text{ V}$

#### **Connection of Equipment**

Connect the measuring device as shown in the following figure, and adjust.

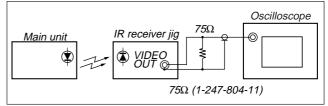


Fig. 5-3-19.

- 1) Select page: 0, address: 01, and set data: 01.
- Select page: 3, address: 0C, set data: 01, and press the PAUSE button of the adjustment remote commander.
- Select page: F, address: 66, and change the data, set the video signal amplitude (A) to the specified value.
- 4) Press the PAUSE button.
- 5) Select page: 3, address: 0C, set data: 00, and press the PAUSE button
- 6) Select page: 0, address: 01, and set data: 00.

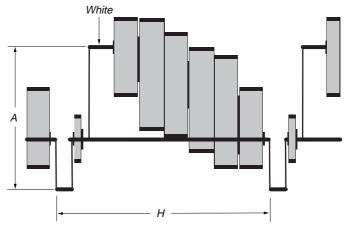


Fig. 5-3-20.

# 3. IR Audio Deviation Adjustment (VC-213 board)

Mode	VTR stop
Signal	Audio signal: 400Hz, -7.5dBs: L and R of AUDIO terminal Video signal: Color bar signal: VIDEO terminal
Measurement Point	AUDIO L terminal and AUDIO R terminal of IR receiver jig (Terminated at 47kΩ)
Measuring Instrument	Audio level meter
Adjustment Page	F
Adjustment Address	67
Specified Value	Signal level: -7.5 ± 1.0 dBs Level difference of L and R: Below 2dB

Note: TR model: DCR-TR7000/TR7000E/TR7100E

# **Connection of Equipment**

Connect the measuring device as shown in the following figure, and adjust.

- 1) Select page: 0, address: 01, and set data: 01.
- Only for the TR model (Note), Select page: D, address: 1B, set data: 01, and press the PAUSE button of the adjustment remote commander.
- 3) Connect the audio level meter to the AUDIO L terminal of the IR receiver jig.
- 4) Select page: F, address: 67, change the data and set the 400Hz audio signal level to the specified value.
- 5) Press the PAUSE button.
- 6) Connect the audio level meter to the AUDIO R terminal of the IR receiver jig.
- 7) Check that the 400Hz audio signal level is within the specified value. If outside, repeat from step 3).
- 8) Only for the TR model (Note), Select page: D, address: 1B, set data: 00, and press the PAUSE button.
- 9) Select page: 0, address: 01, and set data: 00.

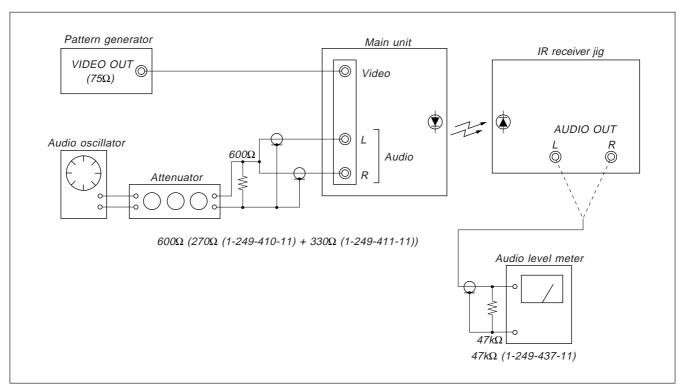


Fig. 5-3-21.

### 3-6. AUDIO SYSTEM ADJUSTMENTS

#### [Connecting the measuring instruments for the audio]

Connect the audio system measuring instruments in addition to the video system measuring instruments as shown in Fig. 5-3-22.

#### [Adjustment Procedure]

- 1) Hi8/standard 8mm AFM BPF fo adjustment
- 2) Hi8/standard 8mm AFM 1.5MHz deviation adjustment
- 3) Hi8/standard 8mm AFM 1.7MHz deviation adjustment
- 4) Digital8 playback level check
- 5) Overall level characteristics check
- 6) Overall distortion check
- 7) Overall noise level check
- 8) Overall separation check

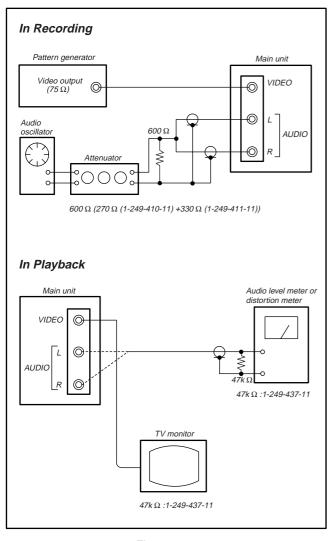


Fig. 5-3-22.

# 1. Hi8/standard 8mm AFM BPF fo Adjustment (VC-213 board)

Sets the BPF passing frequency of IC760 so that the AFM signal can separate from the playback RF signal properly. If deviated, the mono/stereo mode will be differentiated incorrectly, and noises and distortions will increase during high volume playback.

Mode	Playback
Signal	Hi8/standard 8mm alignment tape: For BPF adjustment (WR5-11NS (NTSC)) (WR5-11CS (PAL))
Measurement Point	Audio output terminal left or right
Measuring Instrument	Distortion meter
Adjustment Page	F
Adjustment Address\	64
Specified Value	The Main and Sub channel distortion rate should be almost the same (within $\pm$ 1%) and minimum.

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Set the Hi-Fi sound switch (menu display) to "2".
- 3) Select page: F, address: 64, change the data and minimize the distortion rate.
- 4) Press the PAUSE button of the adjustment remote commander.
- 5) Set the Hi-Fi sound switch (menu display) to "1".
- Select page: F, address: 64, change the data and minimize the distortion rate.
- 7) Press the PAUSE button of the adjustment remote commander.
- 8) Repeat steps 2) to 7) and set the data of address: 64 so that the distortions rates when the Hi-Fi sound switch is set to "2" and set to "1" respectively are almost the same and minimum.
- 9) Press the PAUSE button of the adjustment remote commander.
- 10) Select page: 0, address: 01, and set data: 00.
- 11) Set the Hi-Fi sound switch to "STEREO".

# 2. Hi8/standard 8mm AFM 1.5 MHz Deviation Adjustment (VC-213 board)

Adjust to the optimum 1.5MHz audio FM signal deviation. If the adjustment is not correct, its playback level will differ from that of other units.

Mode	Playback
Signal	Hi8/standard 8mm alignment tape:
	For checking AFM stereo operation
	Monoscope section
	(WR5-9NS(NTSC))
	(WR5-9CS(PAL))
Measurement Point	Audio output terminal left or right
Measuring Instrument	Audio level meter
Adjustment Page	F
Adjustment Address	62
Specified Value	$-7.5 \pm 2.0$ dBs

### Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Set the Hi-Fi sound switch (menu display) to "1".
- Select page: F, address: 62, change the data and set the 400Hz signal level to the specified value.
- 4) Press the PAUSE button.
- 5) Set the Hi-Fi sound switch (menu display) to "STEREO".
- 6) Select page: 0, address: 01, and set data: 00.

# 3. Hi8/standard 8mm AFM 1.7 MHz Deviation Adjustment (VC-213 board)

Adjust to the optimum 1.7MHz audio FM signal deviation. If improper, this causes deteriorated separation (with stereo signal).

Mode	Playback
Signal	Hi8/standard 8mm alignment tape:
	For checking AFM stereo operation
	Monoscope section
	(WR5-9NS(NTSC))
	(WR5-9CS(PAL))
Measurement Point	Audio output terminal left or right
Measuring Instrument	Oscilloscope
Adjustment Page	F
Adjustment Address	63
Specified Value	$-7.5 \pm 2.0$ dBs

# Adjusting method:

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Set the Hi-Fi sound switch (menu display) to "2".
- 3) Select page: F, address: 63, change the data and set the 1kHz signal level to the specified value.
- 4) Press the PAUSE button.
- 5) Set the Hi-Fi sound switch (menu display) to "STEREO".
- 6) Select page: 0, address: 01, and set data: 00.

#### 4. Digital8 Playback Level Check

Mode	VTR playback
Signal	Digital8 alignment tape:
	For audio operation check
	(WR5-3ND (NTSC))
	(WR5-3CD (PAL))
Measurement Point	Audio output terminal left or right
Measuring Instrument	Audio level meter and frequency counter
Specified Value	32 kHz mode: 1 kHz, +3.0 ± 2.0dBs 48 kHz mode: 1 kHz, +3.0 ± 2.0dBs 44.1 kHz mode:
	The 7.35kHz signal level during EMP OFF is $+2.0 \pm 2.0$ dBs.
	The 7.35kHz signal level during EMP
	ON is $-6 \pm 2$ dB from the signal level
	during EMP OFF.

#### **Checking Method:**

1) Check that the playback signal level is the specified value.

# 5. Overall Level Characteristics Check

Mode	Camera recording and playback
Signal	400Hz, -66 dBs signal: MIC jack left
	and right
Measurement Point	Audio output terminal left or right
Measuring Instrument	Audio level meter
Specified Value	$-7.5 \pm 3.0$ dBs

#### **Checking Method:**

- 1) Input the 400Hz, -66dBs signal in the MIC jack.
- 2) Record in the camera mode.
- 3) Playback the recorded section.
- 4) Check that the 400Hz signal level is the specified value.

#### 6. Overall Distortion Check

Mode	Camera recording and playback						
Signal	400Hz, –66dBs signal: MIC jack left and right						
Measurement Point	Audio left or right terminal of AUDIO VIDEO jack						
Measuring Instrument	Audio distortion meter						
Specified Value	Below 0.4% (200Hz to 6kHz BPF ON)						

#### **Checking Method:**

- 1) Input the 400Hz, -66dBs signal in the MIC jack.
- 2) Record in the camera mode.
- 3) Playback the recorded section.
- 4) Check that the distortion is the specified value.

# 7. Overall Noise Level Check

Mode	Camera recording and playback
Signal	No signal: Insert a shorting plug in the MIC jack
Measurement Point	Audio output terminal left or right
Measuring Instrument	Audio level meter
Specified Value	Below –45dBs (IHF-A filter ON, 20kHz LPF ON)

# **Checking Method:**

- 1) Insert a shorting plug in the MIC jack.
- 2) Record in the camera mode.
- 3) Playback the recorded section.
- 4) Check that the noise level is the specified value.

# 8. Overall Separation Check

<u> </u>	
Mode	Camera recording and playback
Signal	400Hz, -66dBs signal: MIC jack <right> [left] (Connect the MIC jack <left> [right] to GND)</left></right>
Measurement Point	Audio output terminal <left> [right]</left>
Measuring Instrument	Audio level meter
Specified Value	Below –40dBs

<> : Left channel check
[] : Right channel check

# **Checking Method:**

- 1) Input the 400Hz, -66dBs signal in the <right> [left] terminal of the MIC jack only.
- 2) Record in the camera mode.
- 3) Playback the recorded section.
- 4) Check that the signal level of the audio output <left> [right] terminal is the specified value.

#### 5-4. SERVICE MODE

# 4-1. ADJUSTMENT REMOTE COMMANDER

The adjustment remote commander is used for changing the calculation coefficient in signal processing, EVR data, etc. The adjustment remote commander performs bi-directional communication with the unit using the remote commander signal line (LANC). The resultant data of this bi-directional communication is written in the non-volatile memory.

#### 1. Using the Adjustment Remote Commander

- Connect the adjustment remote commander to the LANC terminal.
- Set the HOLD switch of the adjustment remote commander to "HOLD" (SERVICE position). If it has been properly connected, the LCD on the adjustment remote commander will display as shown in Fig. 5-4-1.



Fig. 5-4-1.

- 3) Operate the adjustment remote commander as follows.
  - · Changing the page

The page increases when the EDIT SEARCH+ button is pressed, and decreases when the EDIT SEARCH- button is pressed. There are altogether 16 pages, from 0 to F.

Hexadecimal notation	0	1	2	3	4	5	6	7	8	9	A	В	С	D	Е	F
	0	1	2	3	Ч	5	5	7	8	9	Я	Ь	С	Ь	Ε	F
Decimal notation conversion value	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

### · Changing the address

The address increases when the FF ( $\blacktriangleright \blacktriangleright$ ) button is pressed, and decreases when the REW ( $\blacktriangleleft \blacktriangleleft$ ) button is pressed. There are altogether 256 addresses, from 00 to FF.

- Changing the data (Data setting)
  The data increases when the PLAY (▶) button is pressed, and decreases when the STOP (■) button is pressed. There are altogether 256 data, from 00 to FF.
- Writing the adjustment data

  The PAUSE button must be pressed to write the adjustment data (C, D, E, F page) in the nonvolatile memory. (The new adjusting data will not be recorded in the nonvolatile memory if this step is not performed.)
- 4) After completing all adjustments, turn off the main power supply (8.4 V) once.

# 2. Precautions Upon Using the Adjustment Remote Commander

Mishandling of the adjustment remote commander may erase the correct adjustment data at times. To prevent this, it is recommended that all adjustment data be noted down before beginning adjustments and new adjustment data after each adjustment.

# 4-2. DATA PROCESS

The calculation of the DDS display and the adjustment remote commander display data (hexadecimal notation) are required for obtaining the adjustment data of some adjustment items. In this case, after converting the hexadecimal notation to decimal notation, calculate and convert the result to hexadecimal notation, and use it as the adjustment data. Indicates the hexadecimal-decimal conversion table.

He	Hexadecimal-decimal Conversion Table ②																
	Lower digit of hexadecimal	0	1	2	3	4	5	6	7	8	9	Α	В	С	D	E	F
	Upper digit of hexadecimal											(日)	(日)	(_)	(급)	(E)	(F)
	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	1	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
	2	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
	3	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63
	4	64	65	66	67	68	69	70	71	72	73	74	77	76	77	78	79
	5	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95
	6	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111
	7	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127
	8	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143
	9	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159
	A (A)	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
1	B (占)	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191
	C (_)	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207
	D (급)	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223
	E ( <i>E</i> )	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239
	F (F)	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255

**Note:** The characters shown in the parenthesis ( ) shown the display on the adjustment remote commander.

(**Example**) If the DDS display or the adjustment remote commander shows BD (ロロ);

Because the upper digit of the adjustment number is B ( $\frac{1}{2}$ ), and the lower digit is D ( $\frac{1}{2}$ ), the meeting point "189" of ① and ② in the above table is the corresponding decimal number.

Table. 5-4-1.

#### 4-3. SERVICE MODE

#### Additional note on adjustment

**Note:** After the completion of the all adjustments, cancel the service mode by either of the following ways.

- After data on page: D and F is restored, unplug the main power supply and remove the coin lithium battery. (In this case, date and time and menu setting have been set by users are canceled. Perform resetting.)
- 2) After data on page: D and F is restored, select page: 0, address: 01, and return the data to 00. And when data on page: 2 and 3 are changed, return data to the original condition.

### 1. Setting the Test Mode

Page F	Address 2C
--------	------------

Data	Function
00	Normal
01	Test mode Various emergency prohibitions and releases Drum emergency, capstan emergency, loading motor emergency, reel emergency, tape top and end, DEW detection

Page D	Address 10
--------	------------

Data	Function								
00	Normal								
01	Forced camera power ON								
02	Forced VTR power ON								
03	Forced camera + VTR power ON								

- Before setting the data, select page: 0, address: 01, and set data:
- For page D and F, the data set will be recorded in the non-volatile memory by pressing the PAUSE button of the adjustment remote commander. In this case, take note that the test mode will not be exited even when the main power is turned off (8.4Vdc).
- After completing adjustments/repairs, be sure to return the data
  of this address to 00, and press the PAUSE button of the adjustment
  remote commander. And select page: 0, address: 01, and set data:
  00.

#### 2. Emergence Memory Address

### 2-1. C Page. Emergence Memory Address

Page C Address 38 to 43	Page C	Address 38 to 43
-------------------------	--------	------------------

Address	Contents
38	EMG code when first error occurs
3A	Upper: MSW code when shift starts when first error occurs
	Lower: MSW code when first error occurs
3B	Lower: MSW code to be moved when first error occurs
3C	EMG code when second error occurs
3E	Upper: MSW code when shift starts when second error occurs  Lower: MSW code when second error occurs
3F	Lower: MSW code to be moved when second error occurs
40	EMG code when last error occurs
42	Upper: MSW code when shift starts when last error occurs  Lower: MSW code when last error occurs
43	Lower: MSW code to be moved when last error occurs

When no error occurs in this unit, data "00" is written in the above addresses (38 to 43). when first error occurs in the unit, the data corresponding to the error is written in the first emergency address (38 to 3B). In the same way, when the second error occurs, the data corresponding to the error is written in the second emergency address (3C to 3F).

Finally, when the last error occurs, the data corresponding to the error is written in the last emergency address (40 to 43).

Note: After completing adjustments, be sure to initialize the data of addresses 38 to 43 to "00".

#### **Initializing method:**

- 1) Select page: 0, address: 01, and set data: 01.
- 2) Select page: C, address: 38, set data: 00, and press the PAUSE button.
- 3) Select address: 39 to 43 and set data "00" into them in the same way as address: 38.
- 4) Select page: 0, address: 01, and set data: 00.

# 2-2. F Page Emergence Memory Address

Note 1: Emergence of PB mode only.

Page F	Address 10 to 1B
--------	------------------

Address	Contents
10	EMG code when first error occurs
12	Upper: MSW code when shift starts when first error occurs
	Lower: MSW code when first error occurs
13	Lower: MSW code to be moved when first error occurs
14	EMG code when second error occurs
16	Upper: MSW code when shift starts when second error occurs  Lower: MSW code when second error occurs
17	Lower: MSW code to be moved when second error occurs
18	EMG code when last error occurs
1A	Upper: MSW code when shift starts when last error occurs  Lower: MSW code when last error occurs
1B	Lower: MSW code to be moved when last error occurs

When no error occurs in this unit, data "00" is written in the above addresses (10 to 1B). when first error occurs in the unit, the data corresponding to the error is written in the first emergency address (10 to 13). In the same way, when the second error occurs, the data corresponding to the error is written in the second emergency address (14 to 17).

Finally, when the last error occurs, the data corresponding to the error is written in the last emergency address (18 to 1B).

**Note 2:** After completing adjustments, be sure to initialize the data of addresses 10 to 1B to "00".

#### **Initializing method:**

- 1) Select page: 0, address: 01, and set data: 01.
- Select page: F, address: 10, set data: 00, and press the PAUSE button.
- 3) Select address: 11 to 1B and set data "00" into them in the same way as in address: 10.
- 4) Select page: 0, address: 01, and set data: 00.

# 2-3. EMG Code (Emergency Code)

Codes corresponding to the errors which occur are written in C page, addresses 38, 3C and 40 (or F page, addresses 10, 14 and 18). The type of error indicated by the code are shown in the following table.

Code	Emergency Type
00	No error
10	Loading motor emergency during loading
11	Loading motor emergency during unloading
22	T reel emergency during normal rotation
23	S reel emergency during normal rotation
24	T reel emergency (Short circuit between S reel
24	terminal and T reel terminal)
30	FG emergency at the start up of the capstan
40	FG emergency at the start up of the drum
42	FG emergency during normal rotation of the drum

# 2-4. MSW Code

- The lower parts of the data of C page, addresses 3A, 3E and 42 (or F page, addresses 12, 16 and 1A) represent the MSW codes (mode switch mechanism position) when errors occurs.
- The upper parts of the data of C page, addresses 3A, 3E and 42 (or F page, addresses 12, 16 and 1A) represent, when the mechanism position is to be moved, the MSW codes at the start movement (when moving the loading motor).
- The lower parts of the data of C page, addresses 3B, 3F and 43 (or F page, addresses 13, 17 and 1B) represent the MSW codes of the desired movement when the mechanism position is to be moved. ← Unloading

Moved. Chilodaling												-	-oaamig /		
Mechanism po	sition	EJE	СТ	BL	USE	BL	LOAD	BL	STOP	BL	TURN	BL	REC/PB	BL	REW
MSB		-	0	0	0	0	0	0	0	0	0	0	0	0	0
MODE SW C		-	0		0	_	0			_		<u> </u>	0		_ ;
MODE SW B		<b>-</b>	0	-			_	<u> </u>	<u> </u>	_	0	<u> </u> —	0	<del></del>	0
MODE SW A		-	_	<u> </u>		_	0	¦ <b>~</b>	0	<b>-</b>	0	<del></del>	0	<del></del>	<b>-</b>
			II	¦ II	¦ II	II	II	¦ II	¦ II	H	11	II	ll ll	¦ II - ¦	II 1
			_	7	ω	7	8	7	ြ	7	4	7	0	7	5
		 		! !		 		 	! !	 		 			 
	į			L	S chassis mo	veme	ent range	-	'	'		-			į
		 							Pinch	rolle	r is detached	1			1
	1		$\longrightarrow$	l Į								l l			
	Releasing lock of												Pinch rolle	r is pr	essed
		ssette c			ent										

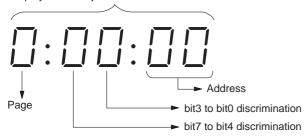
Loading  $\rightarrow$ 

Mechanism Position	MSW Code	Contents									
EJECT	1	Position at which the cassette compartment lock is released. The mechanism will not move any further in the unloading direction.									
BL 7		LANC code. Between two codes. The mechanism will not be stopped by this code while it is perating.									
USE	3	EJECT completion position. When the cassette is ejected, the mechanism will stop at this position.									
LOAD	2	Code during loading/unloading. Code that is used while the LS chassis is moving.									
STOP	6	Normal stop position. The pinch roller separates, the tension regulator returns, and the brakes of both reels turn on.									
TURN	4	Position at which is used when the pendulum gear swings from S to T or from T to S.									
REC/PB	0	PB, REC, CUE, REV, PAUSE, FF positions. The pinch roller is pressed and tension regulator is on.									
REW	5	REW position. REW are carried at this position.  The mechanism will not move any further in the loading direction.									

#### 3. Bit Value Discrimination

Bit values must be discriminated using the display data of the adjustment remote commander for the following items. Us the table below to discriminate if the bit value is "1" or "0".

Display on the adjustment remote commander



(Example) If the remote commander display is "8E", bit value from bit 7 to bit 4 can be discriminated from the column (a), and those from bit 3 to bit 0 from column (b).

	Display on the	Bit values					
	adjustment	bit3	bit2	bit1	bit0		
	remote	or	or	or	or		
	commander	bit7	bit6	bit5	bit4		
	0	0	0	0	0		
	1	0	0	0	1		
	2	0	0	1	0		
	3	0	0	1	1		
	4	0	1	0	0		
	5	0	1	0	1		
	6	0	1	1	0		
	7	0	1	1	1		
A	8	1	0	0	0		
	9	1	0	0	1		
	A (月)	1	0	1	0		
	В (Ы)	1	0	1	1		
	C ([)	1	1	0	0		
	D (d)	1	1	0	1		
$^{\odot}$	E ( <i>E</i> )	1	1	1	0		
	F (F)	1	1	1	1		

# 4. Input/output check

Page 2	Address 49

Bit	Function	When bit value = 1	When bit value = 0
0			
1			
2			
3			
4	MIC jack	MIC jack is used	
5	AUDIO(R) jack	VIDEO(R) jack is used	
6	VIDEO jack	VIDEO jack is used	
7	S VIDEO jack		S VIDEO jack is used

# **Using method:**

- 1) Select page: 2, address: 49.
- By discriminating the bit value of display data, the state of the jack can be discriminated.

# 5. LED, LCD (display window) check

Page 2	Address 05	Bit5
--------	------------	------

# **Using method:**

- 1) Select page: 2, address: 05, and set the bit value of Bit5 to "1".
- Check that all LED are lit and all segments of LCD (display window) are lit.
- 3) Select page: 2, address: 05, and set the bit value of Bit5 to "0".

# 6. Record of Use check

Bit	Function		Remarks
A2	Drum rotation	Hour (H)	1000th place digit and 100th place digit of counted time (decimal digit)
A3	counted time	Hour (L)	10th place digit and 1st place digit of counted time (decimal digit)
A4	(BCD code)	Minute	
A5	User initial power	Year	
A6	on date	Month	After setting the clock, set the date of power on next
A7	(BCD code)	Day	
A8	Final condensation	Year	
A9	occurrence date	Month	
AA	(BCD code)	Day	

#### **Using method:**

1) The record of use data is displayed at page: 2, addresses: A2 to

AA.

**Note:** This data will be erased when the coin lithium battery (CF-62/63/65 board BH001) is removed (reset).

Note:

	CF-62 board	2.5 LCD model		
	CF-63 board	3/3.5 LCD model		
Ī	CF-65 board	TR model		

2.5 LCD model: DCR-TRV103/TRV110/TRV110E/TRV110P 3/3.5 LCD model: DCR-TRV203/TRV210/TRV210E/TRV310/ TRV310E/TRV310P/TRV315

TR model: DCR-TR7000/TR7000E/TR7100E

# 7. Switch check (1)

Page 2	Address 43
--------	------------

Bit	Function	When bit value = 1	When bit value = 0
0	VTR MODE SW (PS-9500 block)	OFF	ON
1	CAM MODE SW (PS-9500 block)	OFF	ON
2	START/STOP SW (SS-8500 block S002)	OFF	ON
3	EJECT SW (SS-8500 block S003)	OFF	ON
4	CC DOWN SW (Mechanism chassis)	OFF (UP)	ON (DOWN)
5	PHOTO FREEEZE SW (FP-49 flexible)	OFF	ON
6			
7			

# **Using method:**

- 1) Select page: 2, address: 43.
- 2) By discriminating the bit value of display data, the state of the switches can be discriminated.

# 8. Switch check (2)

Page 2	Address 60 to 66
--------	------------------

# **Using method:**

1) Select page: 2, address: 60 to 66.

By discriminating the display data, the pressed key can be discriminated.

Address	Data							
Address	00 to 0C	0D to 24	25 to 3F	40 to 5D	5E to 81	82 to AA	AB to D7	D8 to FF
60	LASER LINK	STOP	FF	REC	EDIT SEARCH(+)	EDIT SEARCH(-)		
(KEY AD0)	(FK-8500 block)		No key input					
(IC801 <b>3</b> )	(S008)	(S001)	(S003)	(S005, 007)	(S009)	(S010)		
61	DIJOTO DEC	PAUSE	REW	PLAY				
(KEY AD1)	PHOTO REC	(FK-8500 block)	(FK-8500 block)	(FK-8500 block)				No key input
(IC801 <b>94</b> )	(FP-49 flexible)	(S002)	(S004)	(S006)				
62	DIGITAL EFFECT	PICTURE EFFECT	MENU	EXECUTE		5sec REC	PUSHING REC	NORMAL REC
(KEY AD2)	(CF-62/63/65 board)	(CF-62/63/65 board)	(CF-62/63/65 board)	(CF-62/63/65 board)		(CF-62/63/65 board)	(CF-62/63/65 board)	(CF-62/63/65 board)
(IC801 <b>95</b> )	(S001)	(S006)	(S010)	(S015)		(S024)	(S024)	(S024)
64			EXPOSURE	BACK LIGHT	FADER	FOCUS	EOCHE ALITO	FOCUS
(KEY AD4)			(CF-62/63/65 board)	(CF-62/63/65 board)	(CF-62/63/65 board)	INFINITY	FOCUS AUTO (PS-9500 block)	MANUAL
(IC801 <b>97</b> )			(S012)	(S017)	(S027)	(PS-9500 block)	(F3-9300 block)	(PS-9500 block)
65	DATA CODE		END SEARCH		DISPLAY		+SLOW	
(KEY AD5)	(CF-62/63/65 board)		(CF-62/63 board)		(CF-62/63 board)		SHUTTER	No key input
(IC801 <b>98</b> )	(S003)		(S013)		(S022)		(FP-62 flexible)	
		BRIGHT(+)	BRIGHT(-)	VOLUME(+)	VOLUME(-)			
66	PROGRAM AE	(PD-105 board)	(PD-105 board)	(PD-105 board)	(PD-105 board)	PANEL	PANEL	PANEL
(KEY AD6)	(CF-62/63/65 board)	(S5801)	(S5802)	(S5803)	(S5804)	REVERSE	CLOSE	NORMAL
(IC801 <b>99</b> )	(S004)	(PD-106 board)	(PD-106 board)	(PD-106 board)	(PD-106 board)	(FP-642 flexible)	(FP-642 flexible)	(FP-642 flexible)
		(S5900)	(S5901)	(S5902)	(S5903)			

Note:

CF-62 board	PD-105 board	2.5 LCD model
CF-63 board	PD-106 board	3/3.5 LCD model
CF-65 board	_	TR model

2.5 LCD model: DCR-TRV103/TRV110/TRV110E/TRV110P 3/3.5 LCD model: DCR-TRV203/TRV210/TRV210E/TRV310/ TRV310E/TRV310P/TRV315

TR model: DCR-TR7000/TR7000E/TR7100E

# 9. AUDIO(L) jack check

Page 2	Address 42
--------	------------

Ī	Bit	Function	When bit value = 1	When bit value = 0
	2	AUDIO(L) jack	AUDIO(L) jack is used	

# **Using method:**

1) Select page: 2, address: 45.

 By discriminating the bit value of display data, the state of the AUDIO(L) jack can be discriminated.

# 10. Headphone jack check

Page 3	Address 56
--------	------------

Bit	Function	When bit value = 1	When bit value = 0
2	Headphone jack	Headphone jack is used	

# Using method:

1) Select page: 3, address: 56.

By discriminating the bit value of display data, the state of the headphone jack can be discriminated.

# DCR-TRV103/TRV110/TRV110E/TRV110P/TRV203/TRV210/ TRV210E/TRV310/TRV310E/TRV310P/TRV315 DCR-TR7000/TR7000E/TR7100E

# **SECTION 6 REPAIR PARTS LIST**

# 6-1. EXPLODED VIEWS

### NOTE:

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.

Abbreviation

CND : Canadian model EE East European model North European model NE RH Russian model HK : Hong Kong model AUS : Australian model CN Chinese model

: Taiwan model

BR Brazilian model JΕ : Tourist model TW

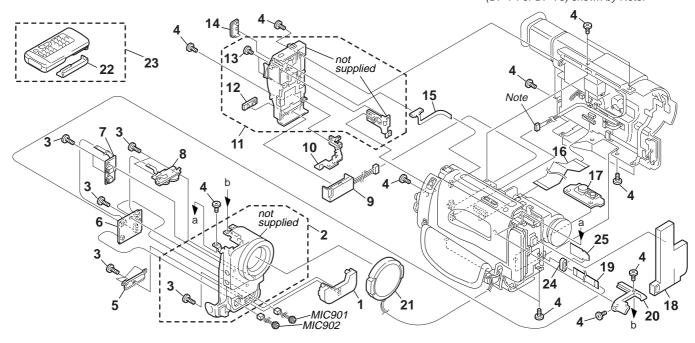
The components identified by mark  $\triangle$  or dotted line with mark  $\triangle$  are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque 

Ne les remplacer que par une pièce portant le numéro spécifié.

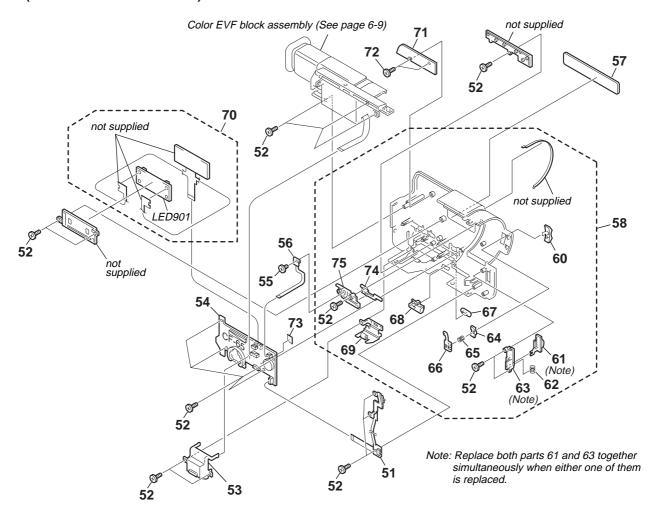
# 6-1-1. FRONT PANEL (N) AND BATTERY PANEL (P) BLOCK ASSEMBLY

Note: the TR models do not have the harness (DP-74 or DP-75) shown by Note.



Ref. No.	Part No.	<u>Description</u>	<u>Remarks</u>	Re	ef. No.	Part No.	Description	<u>Remarks</u>
1	X-3949-374-1	GRILLE (N) ASSY, MICROPHONE			8	1-418-273-11	SWITCH BLOCK, CONTROL(MF-95	500)
	(TRV103/TRV110	)/TRV110E/TRV110P/TR7000/TR7000E	/TR7100E)		9	1-694-384-11	TERMINAL BOARD, BATTERY	
1	X-3949-375-1	GRILLE (N3) ASSY, MICROPHONE			10	3-053-723-01	SHEET METAL (LOWER), STRAP	
	(TRV203/TRV21	0/TRV210E/TRV310/TRV310E/TRV310	P/TRV315)		11	X-3949-390-1	PANEL ASSY (P), BATTERY	
2	X-3949-367-1	PANEL (N) ASSY, FRONT					(EXCEP	T:TRV110:BR)
	(TRV103/TRV1	110/TRV110E:E,HK,AUS,CN,JE/TRV110	P/TR7000)		11	X-3949-512-1	PANEL ASSY (P), BATTERY (TRV1	10:BR)
2	X-3949-368-1	PANEL (N) ASSY, FRONT						
	(TF	RV203/TRV210/TRV210E:CN/TRV310:U	IS,HK,E,JE/		12	3-987-656-01	LID, JACK	
		TRV310E:E,HK,AUS,CN,JE/TRV310	P/TRV315)		13	3-968-729-61	SCREW (M2X3), LOCK ACE, P2	
2	X-3949-369-1	PANEL (N) ASSY, FRONT			14	3-975-752-01	LID (BT), CPC	
		(TRV110E:AEP,UK,EE,NE,RU/TR7000E	/TR7100E)		15	1-672-663-21	FP-49 FLEXIBLE BOARD	
					16	1-783-240-11	CABLE, FLEXIBLE FLAT (FFC-236)	
2	X-3949-370-1	PANEL (N) ASSY, FRONT						
		(TRV210E:AEP,UK/TRV310			17	3-987-717-01	SCREW	
2	X-3949-417-1	PANEL (N) ASSY, FRONT (TRV310:TV	V)		18	3-053-899-01	CUSHION (N)	
3	3-948-339-61	TAPPING			19	1-673-119-11	FP-77 FLEXIBLE BOARD	
4		SCREW (M2), LOCK ACE, P2			20	3-053-604-11		
5	X-3949-373-1	COVER (N) ASSY, MN			21	X-3949-376-1	CAP (N) ASSY, LENS	
6	A-7073-869-A	MA-354 (I) BOARD, COMPLETE		1	22		LID, BATTERY CASE (for RMT-814	•
		(TRV103/TRV110/TRV110E	/TRV110P)		23	1-475-141-61	, , , , , , , , , , , , , , , , , , , ,	4)
6	A-7073-920-A	MA-357 (I) BOARD, COMPLETE			24	1-469-431-11	BEAD, FERRITE	
		(TR7000/TR7000E	/TR7100E)	1	25	3-055-380-01		
6		MA-355 (I) BOARD, COMPLETE			MIC901	1-542-312-11	MICROPHONE (L)	
		0/TRV210E/TRV310/TRV310E/TRV310	P/TRV315)					
7	1-673-118-21	FP-76 FLEXIBLE BOARD			MIC902	1-542-312-11	MICROPHONE (R)	

# 6-1-2. CABINET (R) BLOCK ASSEMBLY (TR MODEL) (TR7000/TR7000E/TR7100E)



Ref. No.	Part No.	<u>Description</u>	Remarks	Ref. No.	Part No.	Description	Remarks
51	1-418-274-11	SWITCH BLOCK, CONTROL (PS-9500)		63	3-056-470-01	RETAINER (93), MF	
52	3-948-339-61	TAPPING		64	3-054-029-01	BUTTON (952), POWER LOCK	
53	3-053-717-01	RETAINER (92), LITHIUM BATTERY		65	3-568-315-01	SPRING, COMPRESSION	
54	A-7073-921-A	CF-65 (C) BOARD, COMPLETE		66	3-054-030-01	HOLDER (952), P KNOB	
55	3-713-791-01	SCREW (M1.7X4), TAPPING, P2		67	3-054-284-01	KNOB (950), MODE SELECTION	
56	1-672-668-21	FP-62 FLEXIBLE BOARD		68	3-054-285-01	RETAINER (950), MODE SELECTION	
57	3-054-289-01	WINDOW (950), LCD (TR7000)		69	3-054-283-01	LID (950), LITHIUM BATTERY	
57	3-054-289-11	WINDOW (950), LCD (TR7000E)		70	A-7094-411-A	INDICATION (LCD) BLOCK ASSY	
57	3-054-289-21	WINDOW (950), LCD (TR7100E)		* 71	3-054-612-01	BLIND (95), CVF	
58	X-3949-452-1	CABINET (R) (950) ASSY (TR7000)		72	3-948-339-01	SCREW, TAPPING	
58	X-3949-456-1	CABINET (R) (950) ASSY (TR7000E/TR	R7100E)	73	3-055-660-01	SHEET (95), MUFFLE	
60	3-054-028-01	KNOB (952), POWER		74	3-054-290-01	KNOB (950), NS	
61	3-056-469-21	KNOB (93), MF		75	3-054-291-01	RETAINER (950), NS	
62	3-965-034-01	SPRING, COMPRESSION		<b>△LED901</b>	1-517-866-11	LIGHT, BACK	

# Note:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.

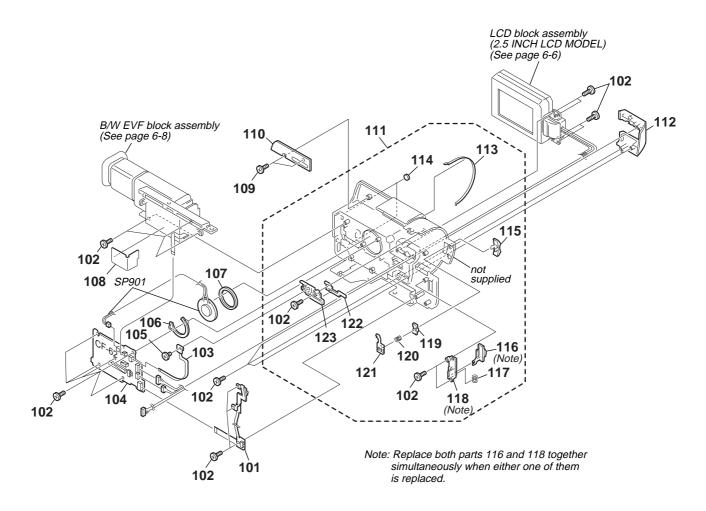
Replace only with part number specified.

#### Note:

Les composants identifiés par une marque  $\triangle$  sont critiques pour la sécurité.

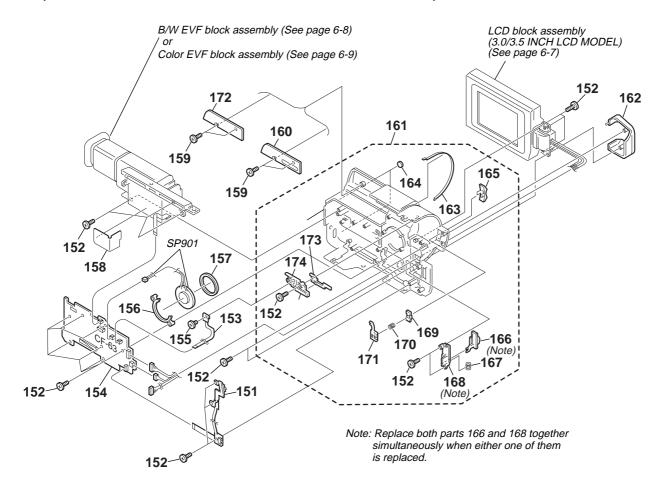
Ne les remplacer que par une pièce portant le numéro spécifié.

# 6-1-3. CABINET (R) BLOCK ASSEMBLY (2.5 INCH LCD MODEL) (TRV103/TRV110/TRV110E/TRV110P)

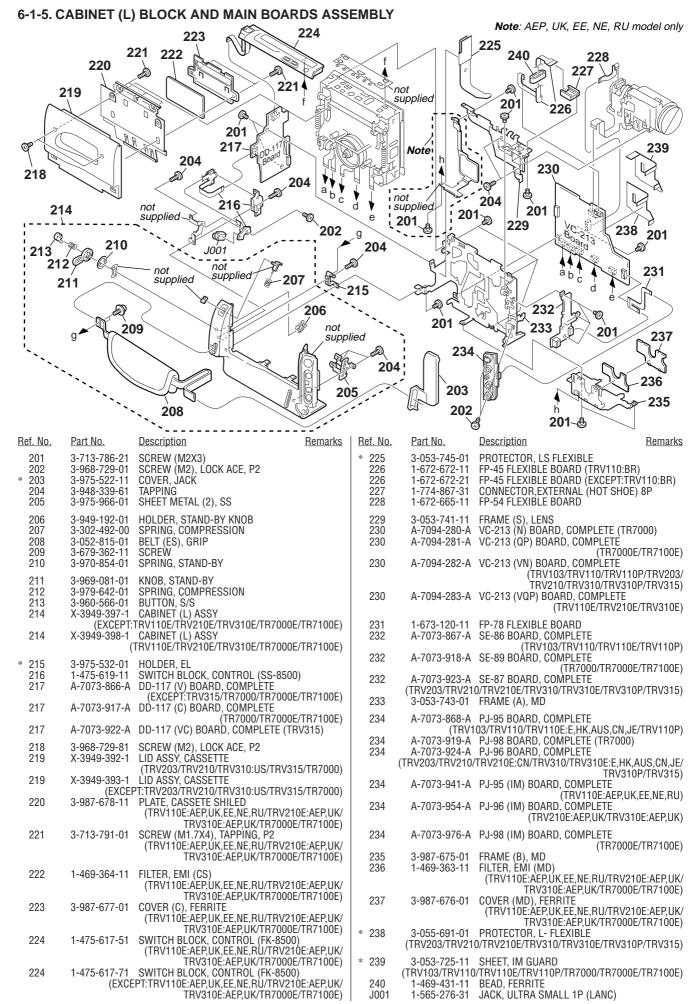


Ref. No.	Part No.	<u>Description</u>	<u>Remarks</u>	Ref. No.	Part No.	<u>Description</u>	<u>Remarks</u>
101	1-418-274-11	SWITCH BLOCK, CONTROL (PS-9500)	)	112	3-054-038-01	COVER (R) (952), HINGE	
102	3-948-339-61	TAPPING		* 113	3-054-031-01	RING (952), ORNAMENTAL	
103	1-672-668-21	FP-62 FLEXIBLE BOARD		114	3-959-978-02	CUSHION, PANEL	
104	A-7073-870-A	CF-62 (B) BOARD, COMPLETE		115	3-054-028-01	KNOB (952), POWER	
105	3-713-791-01	SCREW (M1.7X4), TAPPING, P2		116	3-056-469-21	KNOB (93), MF	
* 106	3-053-783-01	RETAINER (93), SPEAKER		117	3-965-034-01	SPRING, COMPRESSION	
107	3-965-367-01	SPACER, SP		118	3-056-470-01	RETAINER (93), MF	
108	3-053-683-01	GUIDE, HARNESS		119	3-054-029-01	BUTTON (952), POWER LOCK	
109	3-948-339-01	SCREW, TAPPING		120	3-568-315-01	SPRING, COMPRESSION	
110	3-054-069-01	GUIDE (B (95)), TILT		121	3-054-030-01	HOLDER (952), P KNOB	
111	X-3949-415-1	CABINET (R) ASSY (952)		122	3-054-025-01	KNOB (952), NS	
	(TRV1	03/TRV110/TRV110E:E,HK,AUS,CN,JE/	TRV110P)	123	3-054-026-01	RETAINER (952), NS	
111	X-3949-436-1	CABINET (R) ASSY (952)	,	SP901	1-505-291-21	SPEAKER (2.8CM)	
		(TRV110E:AEP,UK,	EE,NE,RU)				

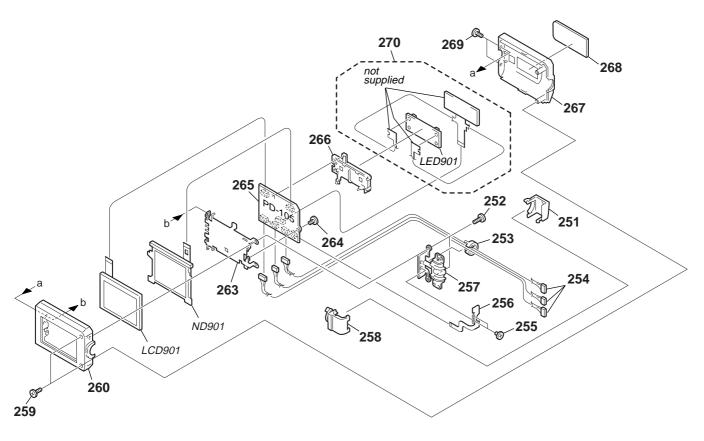
# 6-1-4. CABINET (R) BLOCK ASSEMBLY (3.0/3.5 INCH LCD MODEL) (TRV203/TRV210/TRV210E/TRV310/TRV310E/TRV310P/TRV315)



Ref. No.	Part No.	<u>Description</u>	<u>Remarks</u>	Ref. No.	Part No.	<u>Description</u>	<u>Remarks</u>
151 152 153	1-418-274-11 3-948-339-61 1-672-668-21	SWITCH BLOCK, CONTROL (PS-9500 TAPPING FP-62 FLEXIBLE BOARD	))	162	3-054-277-01	COVER (R) (955), HINGE (TRV203/TRV210/TRV210F TRV31	E/TRV310:US,HK,E,JE/ 0E/TRV310P/TRV315)
154		CF-63 (C) BOARD, COMPLETE (TRV3	15)	162	3-054-277-11	COVER (R) (955), HINGE (	,
154	A-7073-955-A	CF-63 (B) BOARD, COMPLETE		* 163	3-054-031-01	RING (952), ORNAMENTA	L
	(TRV20	3/TRV210/TRV210E/TRV310/TRV310E	/TRV310P)	164	3-959-978-02	CUSHION, PANEL	
				165	3-054-028-01	KNOB (952), POWER	
155	3-713-791-01	SCREW (M1.7X4), TAPPING, P2					
* 156	3-053-783-01	RETAINER (93), SPEAKER		166	3-056-469-11	KNOB (93), MF	
157	3-965-367-01	SPACER, SP		167	3-965-034-01	SPRING, COMPRESSION	
158	3-053-683-01	GUIDE, HARNESS		168	3-056-470-01	RETAINER (93), MF	
159	3-948-339-01	SCREW, TAPPING		169	3-054-029-01	BUTTON (952), POWER LO	OCK
				170	3-568-315-01	SPRING, COMPRESSION	
160	3-054-069-01	GUIDE (B (95)), TILT					
	(TRV20	3/TRV210/TRV210E/TRV310/TRV310E	/TRV310P)	171	3-054-030-01	HOLDER (952), P KNOB	
161	X-3949-449-1	CABINET (R) (955) ASSY		* 172	3-054-612-01	BLIND (95), CVF (TRV315	
	(TF	RV203/TRV210/TRV210E:CN/TRV310:U	JS,HK,E,JE/	173	3-054-267-01	KNOB (955), NS	
		TRV310E:E,HK,AUS,CN,JE/TRV310	P/TRV315)	174	3-054-268-01	RETAINER (955), NS	
161	X-3949-475-1	CABINET (R) (955) ASSY		SP901	1-504-753-41	SPEAKER (2.8CM)	
		(TRV210E:AEP.UK/TRV31)	0E:AEP,UK)				
161	X-3949-477-1	CABINET (R) (955) ASSY (TRV310:TV	N)				



# 6-1-6. LCD BLOCK ASSEMBLY (2.5 INCH LCD MODEL) (TRV103/TRV110/TRV110E/TRV110P)



Ref. No.	Part No.	<u>Description</u>	<u>Remarks</u>	Ref. No.	Part No.	<u>Description</u>	<u>Remarks</u>
251	3-054-039-01	COVER (C) (952), HINGE		266	3-053-702-01	HOLDER (93), LCD	
252	3-948-339-11	SCREW, TAPPING		267	X-3949-544-1	CABINET (C) (952) ASSY, F	)
253	3-987-623-01	CLAMP, HARNESS		268	3-054-122-01	WINDOW (952), LCD (TRV	110/TRV110P)
254	1-959-310-11	HARNESS (DP-74)		268	3-054-122-11	WINDOW (952), LCD (TRV	103)
255	4-981-286-01	SCREW (M1.7X2)(IB LOCK)		268	3-054-122-21	WINDOW (952), LCD (TRV	110E)
256	1-668-963-21	FP-642 FLEXIBLE BOARD		269	3-968-729-01	SCREW (M2), LOCK ACE, I	2
257	X-3949-656-1	HINGE ASSY (N)		270	A-7094-411-A	INDICATION (LCD) BLOCK	ASSY
258	3-987-625-01	COVER (M), HINGE			1-517-866-11	LIGHT, BACK	
259	3-948-339-01	SCREW, TAPPING		LCD901	1-803-355-21	MODULE, CRYSTAL INDIC	ATION
260	X-3949-416-1	CABINET (M (952)) ASSY, P			(TRV1	03/TRV110/TRV110E:E,HK,	AUS,CN,JE/TRV110P)
				LCD901	1-803-357-21	MODULE, CRYSTAL INDIC	ATION
263	X-3949-385-1	FRAME (93) ASSY, PANEL				(TRV11	0E:AEP,UK,EE,NE,RU)
264	3-713-786-21	SCREW (M2X3)					
265	A-7073-871-A	PD-105 (SHN) BOARD, COMPLETE		<b>△</b> ND901	1-517-751-31	TUBE, FLUORESCENT, COL	D CATHODE
	(TRV1	03/TRV110/TRV110E:E,HK,AUS,CN,JE/	TRV110P)		(TRV1	03/TRV110/TRV110E:E,HK,	AUS,CN,JE/TRV110P)
265	A-7073-942-A	PD-105 (SHP) BOARD, COMPLETE		<b>⚠</b> ND901	1-517-751-41	TUBE, FLUORESCENT,COL	D CATHODE
		(TRV110E:AEP,UK,I	EE,NE,RU)			(TRV11	0E:AEP,UK,EE,NE,RU)

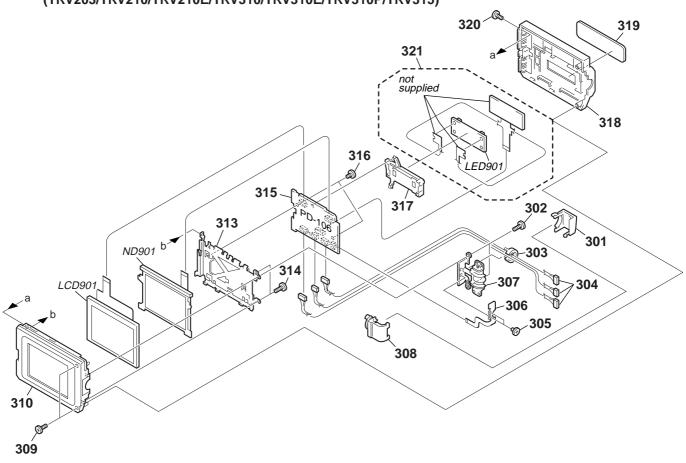
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u	0+0	

The components identified by mark  $\triangle$  or dotted line with mark  $\triangle$  are critical for safety. Replace only with part number specified.

# Note:

Les composants identifiés par une marque \(\Delta\) sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

# 6-1-7. LCD BLOCK ASSEMBLY (3.0/3.5 INCH LCD MODEL) (TRV203/TRV210/TRV210E/TRV310/TRV310E/TRV310P/TRV315)



Ref. No.	Part No.	<u>Description</u>	<u>Remarks</u>	Ref. No.	Part No.	<u>Description</u>	<u>Remarks</u>
301	3-054-278-01	COVER (C) (955), HINGE		317	3-054-275-01	HOLDER (94), LCD	
302	3-948-339-11	SCREW, TAPPING		318	X-3949-450-1	CABINET (C) ASSY (955)	, P
303	3-987-623-01	CLAMP, HARNESS				(TRV203/TRV210/TRV210	
304	1-959-311-11	HARNESS (DP-75)				TRV	310E/TRV310P/TR315)
305	4-981-286-01	SCREW (M1.7X2)(IB LOCK)		318	X-3949-479-1	CABINET (C) (955) ASSY	, P (TRV310:TW)
				319	3-054-276-01	WINDOW (955), LCD (TR	(V315)
306	1-668-963-41	FP-642 FLEXIBLE BOARD		319	3-054-276-11	WINDOW (955), LCD (TR	RV210)
307	X-3949-657-1	HINGE ASSY (NH)					
308	3-987-625-01	COVER (M), HINGE		319	3-054-276-21	WINDOW (955), LCD (TR	
309	3-948-339-01	SCREW, TAPPING		319	3-054-276-31	WINDOW (955), LCD (TR	RV310/TRV310P)
310	3-054-273-01	CABINET (M) (955), P		319	3-054-276-41	WINDOW (955), LCD (TR	RV310E)
		(TRV310:US,HK,E,JE/TRV310E/	TRV310P)	319	3-054-276-51	WINDOW (955), LCD (TR	
				320	3-968-729-01	SCREW (M2), LOCK ACE	, P2
310	3-054-273-11	CABINET (M) (955), P					
		(TRV203/TRV210/TRV210E	E/TRV315)	321	A-7094-411-A	( - )	K ASSY
310	3-054-273-21	CABINET (M) (955), P (TRV310:TW)		△ LED901	1-517-866-11	LIGHT, BACK	
313	X-3949-451-1	FRAME (958) ASSY, PANEL		LCD901	1-803-032-21	MODULE, CRYSTAL INDI	
314	3-948-339-61	TAPPING					(TRV310/TRV310P)
315	A-7073-927-A	PD-106 (SH) BOARD, COMPLETE		LCD901	1-803-359-21	MODULE, CRYSTAL INDI	
		(TRV203/TRV210/TRV210I	E/TRV315)			\	210/TRV210E/TRV315)
				LCD901	1-803-360-21	MODULE, CRYSTAL INDI	
315	A-7073-957-A	PD-106 (CAN) BOARD, COMPLETE					(TRV310:US/TRV310E)
		`	TRV310P)				
315		PD-106 (SHP) BOARD, COMPLETE (TI	RV310E)	△ ND901	1-517-855-11	- , ,	
316	3-713-786-21	SCREW (M2X3)					10/TRV310E/TRV310P)
				⚠ ND901	1-517-856-11	- , ,	
				l		(TRV203/TRV	210/TRV210E/TRV315)

Note:
The components identified by
mark A or dotted line with mark
⚠ are critical for safety.
Replace only with part number

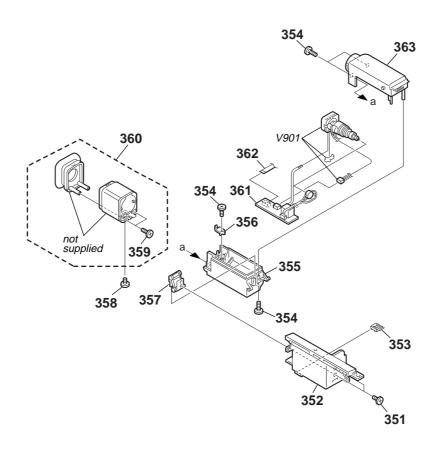
specified.

# Note:

Les composants identifiés par une marque riangle sont critiques pour la sécurité. Ne les remplacer que par une

pièce portant le numéro spécifié.

# 6-1-8. B/W EVF BLOCK ASSEMBLY (TRV103/TRV110/TRV110E/TRV110P/TRV203/TRV210/TRV210E/TRV310/TRV310E/TRV310P)



Ref. No.	Part No.	<u>Description</u>	Remarks	Ref. No.	Part No.	<u>Description</u>	<u>Remarks</u>
351	3-713-786-21	SCREW (M2X3)		360	X-3949-329-1	FINDER (S) ASSY	
352	3-054-068-01	BASE B (95), VF		361	A-7073-838-A	VF-129 (N) BOARD, COMF	PLETE
353	3-053-685-01	LOCK (93), TILT			(TRV103/TRV1	10/TRV110P/TRV203/TRV2	10/TRV310/TRV310P)
354	3-948-339-01	SCREW, TAPPING		361	A-7073-855-A	VF-129 (P) BOARD, COMP	PLETE
355	3-054-067-01	CABINET (LOWER B) (95), EVF				(TRV110	E/TRV210E/TRV310E)
		(EXCEPT:TRV3	310:TW)	362	1-790-412-11	CABLE, FLEXIBLE FLAT (F	FC-256)
				363	X-3949-412-1	CABINET (UPPER B) (95)	ASSY
355	3-054-067-11	CABINET (LOWER B) (95), EVF (TRV310	:TW)				(EXCEPT:TRV310:TW)
356	3-053-681-01	TALLY, EVF					
357	X-3949-327-1	ARM (B) ASSY, CRANK		363	X-3949-586-1	CABINET (UPPER B) (959)	ASSY (TRV310:TW)
358	3-975-898-01	SCREW (T), F LOCK		<b>△</b> V901	1-452-673-61	CRT ASSY (M01KXX90WE	3)
359	3-948-339-61	TAPPING					

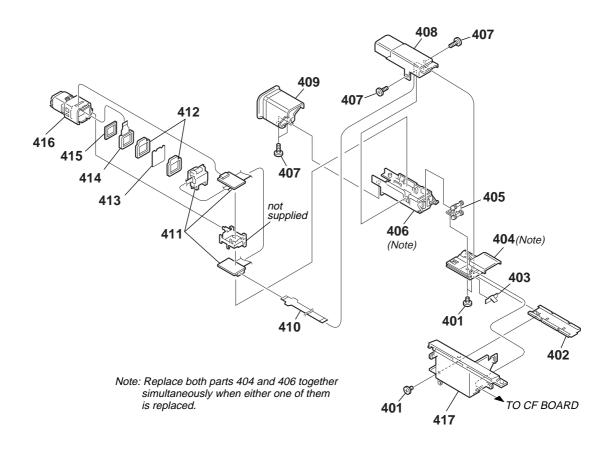
Note	:	

The components identified by mark riangle or dotted line with mark  $\triangle$  are critical for safety. Replace only with part number specified.

# Note:

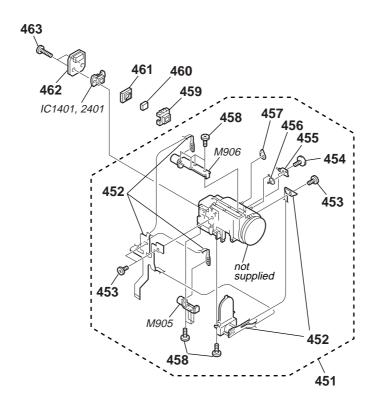
Les composants identifiés par une marque  $\triangle$  sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

# 6-1-9. COLOR EVF BLOCK ASSEMBLY (TRV315/TR7000/TR7000E/TR7100E)



Ref. No.	Part No.	<u>Description</u>	<u>Remarks</u>	Ref. No.	Part No.	<u>Description</u>	<u>Remarks</u>
401	3-968-729-81	SCREW (M2), LOCK ACE, P2		410	1-672-662-11	FP-47 FLEXIBLE BOARD	
402	3-053-677-01	BASE (C), SLIDE FIXED		411	A-7073-876-A	VF-126 BOARD, COMPLETE	
403	3-054-141-01	RETAINER, HARNESS		* 412	3-989-416-11	CUSHION (458), LCD	
404	X-3949-414-4	SLIDE BASE C (95) ASSY		* 413	3-988-563-01	ILLUMINATOR (458), BL	
405	X-3949-331-1	ARM (C) ASSY, CRANK		414	8-753-023-89	LCX024AK-J COMPLE	
406	3-054-074-03	CABINET (LOWER C) (95), EVF		* 415	3-960-302-11	CUSHION (1), LCD	
407	3-948-339-01	SCREW, TAPPING		416	X-3949-332-1	LENS ASSY (92), VF	
408	3-054-073-01	CABINET (UPPER C) (95), EVF		417	3-054-075-03	BASE C (95), VF	
409	X-3949-413-1	CABINET (REAR C) (95) ASSY, EVF					

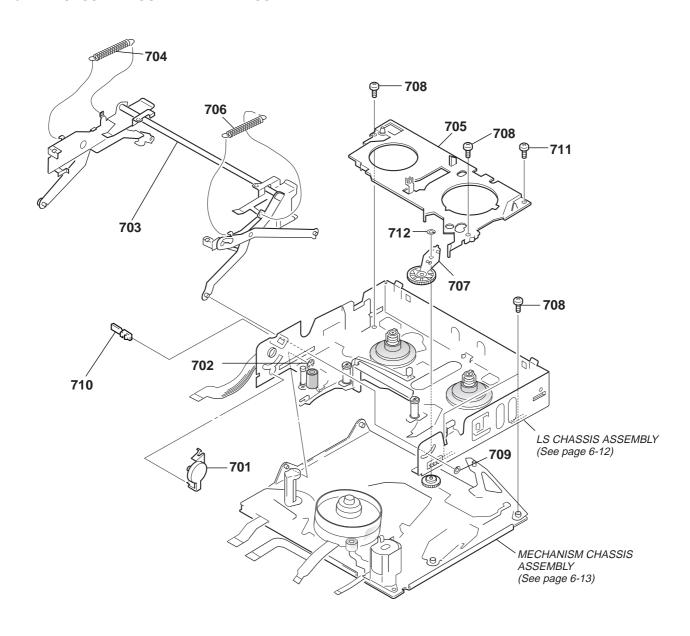
# 6-1-10. LENS BLOCK ASSEMBLY



Be sure to read "Precautions upon replacing CCD imager" on page 4-11,14 when changing the CCD imager.

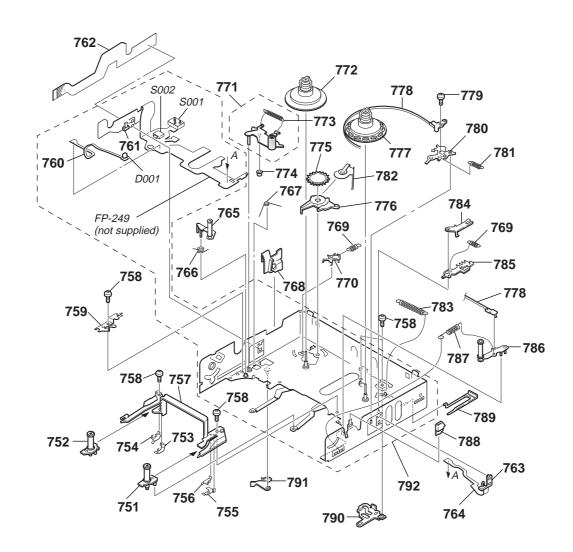
Ref. No.	Part No.	Description	<u>Remarks</u>	Ref. No.	Part No.	<u>Description</u>	<u>Remarks</u>
451	8-848-729-01	DEVICE, LENS LSV-630A		461	3-968-054-11	RUBBER (FM), SHIELD	)
452	X-3949-355-1	IRIS FLEXIBLE ASSY 630 (N)		462	A-7073-865-A	CD-212 BOARD, COMF	PLETE
454	3-053-853-01	TAPPING (B1.7X4)			(EXCEPT:	TRV110E/TRV210E/TRV	/310E/TR7000E/TR7100E)
455	3-653-827-01	LEVER, IR		462	A-7073-940-A	CD-213 BOARD, COMF	PLETE
456	3-053-800-01	SPRING, RETAIN			(	TRV110E/TRV210E/TRV	/310E/TR7000E/TR7100E)
				463	3-318-203-11	SCREW (B1.7X6), TAP	PING
457	3-053-799-01	GEAR, IR		IC1401	A-7030-821-A	CCD BLOCK ASSY (CC	D IMAGER)
458	3-713-791-41	SCREW, TAPPING (M1.7X5), P2			(EXCEP	T:TRV110E/TRV210E/TR	310E/TR7000E/TR7100E)
459	3-978-981-11	ADAPTOR (FK), CCD FITTING					
460	1-758-155-21	FILTER BLOCK, OPTICAL		IC2401	A-7030-885-A	CCD BLOCK ASSY (CC	CD IMAGER)
	(	(TRV110E/TRV210E/TRV310E/TR7000E	E/TR7100E)			(TRV110E/TRV210E/TR	310E/TR7000E/TR7100E)
460	1-758-216-21	FILTER BLOCK, OPTICAL		M905	1-763-262-11	MOTOR, FOCUS STEPI	PING
	(EXCEPT:	TRV110E/TRV210E/TRV310E/TR7000E	E/TR7100E)	M906	1-763-046-11	MOTOR, ZOOM STEPP	PING

# 6-1-11. CASSETTE COMPARTMENT ASSEMBLY



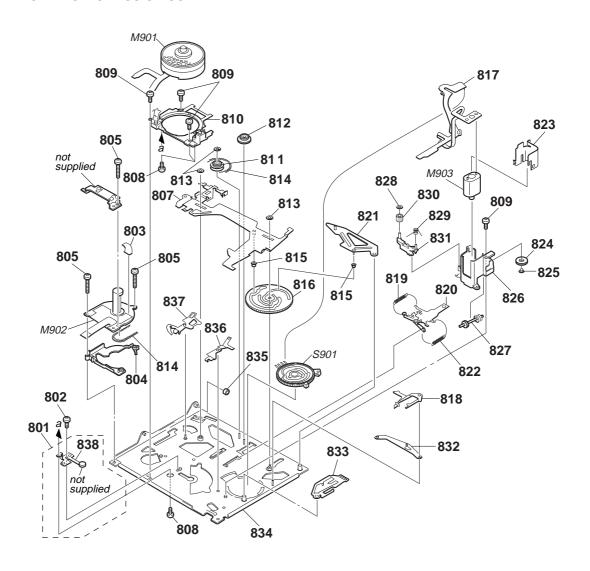
Ref. No.	Part No.	<u>Description</u>	Remarks	Ref. No.	Part No.	<u>Description</u>	<u>Remarks</u>
701	A-7040-421-A	DAMPER ASSY		707	X-3949-383-2	GEAR ASSY (E), GOOSENECK	
702	7-624-102-04	STOP RING 1.5, TYPE -E		708	3-947-503-01	SCREW (M1.4X2.5)	
703	X-3949-153-2	CASSETTE COMPARTMENT ASSY		709	3-727-176-01	WASHER, STOPPER	
704	3-965-587-03	SPRING(POWER TENSION), TENSION		710	3-971-076-01	FASTENER, D	
705	3-989-479-01	RETAINER (2), GOOSENECK		711	3-976-055-01	SCREW (M1.4X1)	
706	3-973-268-01	SPRING(POWER TENSION), TENSION		712	3-331-007-21	WASHER	

# 6-1-12. LS CHASSIS ASSEMBLY



Ref. No.	Part No.	<u>Description</u>	<u>Remarks</u>	Ref. No.	Part No.	<u>Description</u>	<u>Remarks</u>
751	A-7040-419-A	BASE (S) BLOCK ASSY, GUIDE		774	3-965-579-01	ROLLER, PINCH PRESS	
752		BASE (T) BLOCK ASSY, GUIDE		775	3-965-563-01	GEAR, T SOFT	
753	3-965-559-01	STOPPER (T)		776	3-965-565-01	CLAW, T SOFT	
754		STOPPER (T), GB		777	X-3945-397-1	DECK ASSY, REEL, S	
755	3-965-558-01	STOPPER (S)		778	X-3945-396-1	BAND ASSY, TENSION REGULATOR	
756	3-965-556-01	STOPPER (S), GB		779	3-945-756-01	SCREW (M1.4X3)	
757	3-965-553-01	RAIL, GUIDE		780	3-965-583-01	ARM, RVS	
758	3-947-503-01	SCREW (M1.4X2.5)		781	3-965-580-01	SPRING (ARM, RVS), TENSION	
759	3-965-573-01	RETAINER, TG4		782	3-966-384-01	SPRING, T SOFT	
760	1-658-213-11	FP-355 FLEXIBLE BOARD		783	3-965-578-01	SPRING, TENSION COIL	
761	3-965-552-01	HOLDER (T), SENSOR		784	3-965-560-01	RATCHET, S	
762	1-657-786-13	FP-221 FLEXIBLE BOARD		785	3-965-561-01	PLATE, RELEASE, S RATCHET	
763	3-965-551-01	HOLDER (S), SENSOR		786	X-3945-395-1	ARM ASSY, TG1	
764	1-658-214-11	FP-356 FLEXIBLE BOARD		787	3-965-576-01	SPRING (TG1), TENSION	
765	A-7040-417-A	ARM BLOCK ASSY, TG4		788	3-965-567-01	LID OPEN	
766	3-965-574-01	SPRING (RETURN, TG4), TORSION		789	3-965-566-01	COVER, LS GUIDE	
767	3-965-575-01	SPRING (PINCH), TORSION		* 790	3-965-577-01	PLATE, CAM, LS	
768	3-965-568-11	GUIDE, LOCK		791	3-965-569-01	ARM, EJ	
769	3-965-562-01	SPRING (RATCHET), TENSION		792	A-7040-427-A	CHASSIS (S1) ASSY, LS	
770	3-965-581-03	RATCHET, T		D001	8-719-988-42	DIODE GL453	
771 772		ARM ASSY (E), PINCH DECK ASSY, REEL, T		S001	1-692-614-11	SWITCH, PUSH (3KEY) (Hi8/ME/MP.RE	C PROOF)
773		SPRING (PINCH), TENSION		S002	1-572-688-11	SWITCH, PUSH (1 KEY)(C.C.LOCK)	.o i ((ooi )

# 6-1-13. MECHANISM CHASSIS ASSEMBLY



Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
		•				· · · · · · · · · · · · · · · · · · ·	
801		GROUND (IM) ASSY, SHAFT		823	3-965-542-01	SHIELD, MOTOR	
802		SCREW (M1.7X1.6)		824	3-965-539-01	GEAR (A)	
803		FP-38 FLEXIBLE BOARD		825	3-965-538-01	SLEEVE, MOTOR HOLDER	
804		SPACER (E), CAPSTAN		826	3-965-540-01	HOLDER, MOTOR	
805	3-965-549-11	SCREW (M1.4X 6.7)		827	3-965-541-01	SHAFT, WORM	
807	3-971-644-02	SLIDER (2), M		828	3-321-393-01	WASHER, STOPPER (TR7000E:AEP)	
808	X-3947-895-1	SCREW ASSY, DRUM ATTACHED		829	3-965-724-01	SPRING (RETURN, HC), TORSION	
809	3-947-503-01	SCREW (M1.4X2.5)		830	A-7040-423-A	ROLLER BLOCK ASSY, HC	
810	A-7040-494-A	BASE BLOCK ASSY, DRUM		831	X-3945-407-1	ARM ASSY, HC ROLLER	
811	3-965-527-01	GEAR, CHANGE		832	3-965-531-01	ARM, GL	
812	3-965-544-01	GEAR, RELAY		833	3-965-530-01	PLATE (2), REGULATOR, TENSION	
813	3-331-007-21	WASHER (TR7000E:AEP)		834	X-3949-382-4	CHASSIS ASSY (E), MECHANICAL	
814	3-965-546-01	BELT, TIMING		835	3-965-526-02	ROLLER, LS GUIDE	
815	3-965-533-01	ROLLER, LS		836	3-965-547-01	ARM, HC DRIVING	
816	3-965-528-01	•		837	3-965-534-01	•	
817	1-657-784-11	FP-220 FLEXIBLE BOARD		838	3-974-320-02	GROUND (IM), SHAFT	
818		PLATE, REGULATOR, TENSION		M901	A-7048-904-A	* **	
819	3-965-536-01			M902	8-835-635-01	· · · · · · · · · · · · · · · · · · ·	)
820		SLIDER ASSY, GL		M903	X-3945-401-1		,
821	3-965-532-21	•		S901	1-762-436-15	, ,	
021	0 700 002 21	Tutting EO		2701	1 702 400 10	own on, no man (Enoughly	
822	3-965-535-01	SPRING (LIMITTER ARM S), COIL					

**CD-212 CD-213** CF-62/63/65

#### 6-2. ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "\*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items
- CAPACITORS: uF: μF RESISTORS
  - All resistors are in ohms. METAL: metal-film resistor

METAL OXIDE: Metal Oxide-film resistor

COILS uH: μH

SEMICONDUCTORS In each case, u:  $\mu$ , for example:  $uA...: \mu A...\;, uPA...\;, \mu PA...\;,$ uPB... ,  $\mu PB...$  , uPC... ,  $\mu PC...$  , uPD..., μPD...

Abbreviation

CND : Canadian model EE : East European model : North European model NE. RU : Russian model HK : Hong Kong model **AUS** : Australian model CN : Chinese model BR : Brazilian model

When indicating parts by reference number, please include the board name.

The components identified by mark  $\boldsymbol{\vartriangle}$  or dotted line with mark  ${\it \triangle}$  are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque 

Ne les remplacer que par une pièce portant le numéro spécifié.

F: nonf	lammable Part No.	Description		JE	: Tourist m Remarks
	A-7073-865-A	CD-212 BOARD, (TRV103/TRV TRV	0P/TRV2 0P/TRV3	03/TRV210/ 15/TR7000)	
		(IC1401 is not i			0000 Series) blete board.)
		< CAPACITOR >			
C1402 C1405 C1406 C1407	1-125-777-11 1-113-682-11	TANTAL. CHIP CERAMIC CHIP TANTAL. CHIP CERAMIC CHIP	22uF 0.1uF 33uF 0.1uF	20% 10% 20%	16V 10V 10V 16V
		< CONNECTOR :	>		
CN1401	1-766-346-21	CONNECTOR, F	C/FPC 16P		
		< IC >			
IC1401	A-7030-821-A	CCD BLOCK ASS	SY (CCD IM	IAGER)	
		< COIL >			
L1402	1-414-757-11	INDUCTOR	100uH		
		< TRANSISTOR	>		
Q1401	8-729-117-73	TRANSISTOR 25	SC4178-F1	3F14-T1	
		< RESISTOR >			
R1401 R1402 R1403	1-218-990-11 1-218-990-11 1-218-959-11	SHORT 0	3.3K	5%	1/16W

A-7073-940-A CD-213 BOARD, COMPLETE (TRV110E/TRV210E/TRV310E/TR7000E/TR7100E)

> (Ref.No:10000 Series) (IC2401 is not included in this complete board.)

< CAPACITOR >

1-164-937-11 CERAMIC CHIP 0.001uF 10% 16V C2401 C2402 1-119-751-11 TANTAL. CHIP 22uF 20% 16V C2406 1-113-682-11 TANTAL. CHIP 33uF 20% 10V 1-107-820-11 CERAMIC CHIP C2407 0.1uF 16V C2408 1-135-177-21 TANTALUM CHIP 1uF 20% 20V

Be sure to read "Precautions upon replacing CCD imager" on page 4-11,14 when changing the CCD imager.

	nodel odel					
	Ref. No.	Part No.	<u>Description</u>			<u>Remarks</u>
	C2409 C2411	1-135-210-11 1-164-850-11	TANTALUM CHIP CERAMIC CHIP		20% 0.5PF	10V 16V
			< CONNECTOR >			
	CN2401	1-766-346-21	CONNECTOR, FFC	FPC 16P		
			< IC >			
	IC2401 IC2402		CCD BLOCK ASSY IC AD8014ART-RE	`	GER)	
			< COIL >			
	L2401 L2402			100uH 100uH		
			< RESISTOR >			
	R2401 R2402	1-218-940-11 1-218-990-11	- , -	82	5%	1/16W
I	R2404	1-218-953-11	- , -	1K	5%	1/16W
I		1-218-961-11	- , -	4.7K	5%	1/16W
	R2406	1-218-962-11	RES,CHIP	5.6K	5%	1/16W
		A 7070 070 A	0F (0/P) D0ADD	COMPLETE		

A-7073-870-A CF-62(B) BOARD, COMPLETE

(TRV103/TRV110/TRV110E/TRV110P)

(Ref.No.:7000 Series)

A-7073-921-A CF-65(C) BOARD, COMPLETE

(TR7000/TR7000E/TR7100E) \*\*\*\*\*\*\*\*\*

(Ref.No.:9000 Series)

A-7073-926-A CF-63(C) BOARD, COMPLETE (TRV315)

A-7073-955-A CF-63(B) BOARD, COMPLETE

(TRV203/TRV210/TRV210E/TRV310/TRV310E/TRV310P)

(Ref.No.:8000 Series)

< BATTERY HOLDER >

1-550-104-11 HOLDER, BATTERY BH001

< BUZZER >

BZ001 1-529-107-11 BUZZER, PIEZOELECTRIC

(TR7000/TR7000E/TR7100E)

# CF-62/63/65

Ref. No.	Part No.	Description			Remarks	Ref. No.	Part No.	Description			Remarks
		< CAPACITOR >				R015	1-216-826-11	•	2.7K	5%	1/16W
		CALACITOR >				1013	1-210-020-11				E/TR7100E)
C003	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V	R016	1-216-826-11	· ·	2.7K	5%	1/16W
			(TR7000/TI	R7000E	/TR7100E)	R022	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
						R023	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
		< CONNECTOR >				R025	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
CN001	1-778-637-21	CONNECTOR, FF	C/FPC (7IF) 50	ΩP		R026	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
* CN002	1-566-540-11	CONNECTOR, FP				R029	1-216-828-11		3.9K	5%	1/16W
			) 03/TRV110/TF		TRV110P)	R030	1-216-833-11	METAL CHIP	10K	5%	1/16W
CN002	1-774-765-11	CONNECTOR, FF	C/FPC 8P			R031	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
		(EXCEPT:TRV10		RV110E/	TRV110P)	R032	1-216-828-11		3.9K	5%	1/16W
* CN003	1-580-055-21	PIN, CONNECTOR	, ,	2)/1105	(TD) (110D)			(EXCI	EPT:TR7000	/TR7000	E/TR7100E)
CN003	1 405 220 21	PIN, CONNECTOR	03/TRV110/TF		TRVITOP)	R036	1-216-832-11	METAL CLID	8.2K	5%	1/16W
CINOUS		0/TRV210E/TRV31			D/TD\/315\	R037	1-216-832-11		8.2K	5%	1/16W
	(110/203/110/21	0/11(1210L/11(131	10/11(1310L/1	11(1310)	/11(1313)	1037	1-210-032-11				E/TR7100E)
CN006	1-778-508-21	PIN, CONNECTOR	R (PC BOARD	)) 6P		R038	1-216-832-11	· ·	8.2K	5%	1/16W
			:PT:TR7000/TI	•	/TR7100E)	R039	1-216-838-11	METAL CHIP	27K	5%	1/16W
CN007	1-779-334-11	CONNECTOR, FF	C/FPC 20P			R040	1-216-838-11	METAL CHIP	27K	5%	1/16W
			15/TR7000/TI	R7000E	/TR7100E)			(EXC	EPT:TR7000	/TR7000	E/TR7100E)
* CN008	1-778-283-11	CONNECTOR, FF									
CNICO	1 (01 2/4 21	(EXCEPT:TRV3			/TR7100E)	R041	1-216-838-11		27K	5%	1/16W
CN009	1-691-364-21	CONNECTOR, FF	C/FPC (ZIF) 20 TR7000/TI)		/TD7100E\	R042	1-216-864-11	METAL CHIP	(TD7000	5%	1/16W E/TR7100E)
CN009	1-778-509-21	PIN, CONNECTOR	•		/TR/TOUE)	R044	1-216-864-11	METAL CHIP	0	5%	1/16W
CNOO7	1-770-307-21		PT:TR7000/TI		/TR7100E)	1044	1-210-004-11	WEIAL CIIII			E/TR7100E)
		(=:::=			,	R046	1-216-840-11	METAL CHIP	39K	5%	1/16W
CN010	1-774-633-11	CONNECTOR, FF	C/FPC 8P						(TR7000	/TR7000	E/TR7100E)
		,	03/TRV110/TF	RV110E/	TRV110P)	R049	1-216-864-11	METAL CHIP	0	5%	1/16W
CN010	1-779-328-21	CONNECTOR, FF									
		(EXCEPT:TRV10	03/TRV110/TF	RV110E/	TRV110P)	R050	1-216-845-11		100K	5%	1/16W
		< DIODE >				R052 R053	1-216-816-11 1-216-803-11		390 33	5% 5%	1/16W 1/16W
		< DIODE >				K033	1-210-003-11	IVIETAL CHIP	33	376	1/1000
D001	8-719-062-16	DIODE 01ZA8.2(	TPL3)					< SWITCH >			
D001	8-719-062-16	DIODE 01ZA8.2(T	TPL3) :PT:TR7000/TI	R7000E	/TR7100E)			< SWITCH >			
D001 D003		•	PT:TR7000/TI	R7000E	/TR7100E)	S001	1-771-138-61	SWITCH, KEY B			ECT)
D003	8-719-062-16	(EXCE DIODE 01ZA8.2(7	:PT:TR7000/TI TPL3) (TR7000/TI		,	S003	1-771-138-61	SWITCH, KEY B SWITCH, KEY B	OARD (DATI	E CORD)	ECT)
D003	8-719-062-16 8-719-073-03	(EXCE DIODE 01ZA8.2(7 DIODE MA8082-0	PT:TR7000/TI TPL3) (TR7000/TI (K8).S0		,		1-771-138-61	SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII	OARD (DATI LE (PROGR <i>I</i>	E CORD) AM AE)	·
D003 D005 D006	8-719-062-16 8-719-073-03 8-719-073-03	DIODE MA8082-0 DIODE MA8082-0	PT:TR7000/TI TPL3) (TR7000/TI (K8).S0 (K8).S0		,	S003 S004	1-771-138-61 1-771-029-21	SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII (EXCI	OARD (DATI LE (PROGRA EPT:TR7000	E CORD) AM AE) /TR7000	E/TR7100E)
D003	8-719-062-16 8-719-073-03 8-719-073-03	(EXCE DIODE 01ZA8.2(7 DIODE MA8082-0	PT:TR7000/TI TPL3) (TR7000/TI (K8).S0 (K8).S0		,	S003	1-771-138-61 1-771-029-21	SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII	OARD (DATI LE (PROGRA EPT:TR7000 OARD (PRO	E CORD) AM AE) /TR7000 GRAM AI	E/TR7100E) E)
D003 D005 D006	8-719-062-16 8-719-073-03 8-719-073-03 8-719-073-01	DIODE MA8082-( DIODE MA8082-( DIODE MA8082-( DIODE MA111-(k	PT:TR7000/TI TPL3) (TR7000/TI (K8).S0 (K8).S0 (8).S0		,	S003 S004	1-771-138-61 1-771-029-21 1-771-138-61	SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII (EXCI SWITCH, KEY B	OARD (DATI LE (PROGRA EPT:TR7000 OARD (PRO (TR7000	E CORD) AM AE) /TR7000 GRAM AI /TR7000	E/TR7100E) E) E/TR7100E)
D003 D005 D006 D008	8-719-062-16 8-719-073-03 8-719-073-03 8-719-073-01	DIODE MA8082-0 DIODE MA8082-0	PT:TR7000/TI TPL3) (TR7000/TI (K8).S0 (K8).S0 (8).S0		,	S003 S004 S004	1-771-138-61 1-771-029-21 1-771-138-61	SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII (EXCI	OARD (DATI LE (PROGRA EPT:TR7000 OARD (PRO (TR7000	E CORD) AM AE) /TR7000 GRAM AI /TR7000	E/TR7100E) E) E/TR7100E)
D003 D005 D006 D008	8-719-062-16 8-719-073-03 8-719-073-03 8-719-073-01	DIODE MA8082-( DIODE MA8082-( DIODE MA8082-( DIODE MA111-(k	PT:TR7000/TI TPL3) (TR7000/TI (K8).S0 (K8).S0 (8).S0		,	S003 S004 S004	1-771-138-61 1-771-029-21 1-771-138-61 1-771-138-61	SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII (EXCI SWITCH, KEY B	OARD (DATI LE (PROGRA EPT:TR7000 OARD (PRO (TR7000 OARD (PICT LE (MENU)	E CORD) AM AE) /TR7000 GRAM AI /TR7000 TURE EFF	E/TR7100E) E) E/TR7100E) ECT)
D003 D005 D006 D008 D013	8-719-062-16 8-719-073-03 8-719-073-03 8-719-073-01 8-719-073-03	DIODE MA8082- DIODE MA8082- DIODE MA8082- DIODE MA111-(k DIODE MA8082-(	(PT:TR7000/TI TPL3) (TR7000/TI (K8).S0 (K8).S0 (K8).S0 (K8).S0	R7000E	/TR7100E)	\$003 \$004 \$004 \$006 \$010	1-771-138-61 1-771-029-21 1-771-138-61 1-771-138-61 1-771-029-21	SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B	OARD (DATI LE (PROGRA EPT:TR7000 OARD (PRO (TR7000 OARD (PICT LE (MENU) (TR7000	E CORD) AM AE) /TR7000 GRAM AI /TR7000 URE EFF	E/TR7100E) E) E/TR7100E)
D003 D005 D006 D008	8-719-062-16 8-719-073-03 8-719-073-03 8-719-073-01 8-719-073-03	DIODE MA8082- DIODE MA8082- DIODE MA8082- DIODE MA111-(k DIODE MA8082-0	(PT:TR7000/TI TPL3) (TR7000/TI (K8).S0 (K8).S0 (K8).S0 (K8).S0	R7000E	/TR7100E)	\$003 \$004 \$004 \$006	1-771-138-61 1-771-029-21 1-771-138-61 1-771-138-61 1-771-029-21	SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII SWITCH, KEY B	OARD (DATI LE (PROGRA EPT:TR7000 OARD (PRO (TR7000 OARD (PICT LE (MENU) (TR7000 OARD (MEN	E CORD) AM AE) /TR7000 GRAM AI /TR7000 TURE EFF /TR7000	E/TR7100E) E) E/TR7100E) ECT) E/TR7100E)
D003 D005 D006 D008 D013	8-719-062-16 8-719-073-03 8-719-073-03 8-719-073-01 8-719-073-03	DIODE MA8082-DIODE MA8082-DIODE MA8082-DIODE MA8082-COLODE	(TPT:TR7000/TI TPL3) (TR7000/TI (K8).S0 (K8).S0 (K8).S0 (K8).S0 (K8).S0	R7000E	/TR7100E)	\$003 \$004 \$004 \$006 \$010	1-771-138-61 1-771-029-21 1-771-138-61 1-771-138-61 1-771-029-21 1-771-138-61	SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII SWITCH, KEY B	OARD (DATI LE (PROGRA EPT:TR7000 OARD (PRO (TR7000 OARD (PICT LE (MENU) (TR7000 OARD (MEN EPT:TR7000	E CORD) AM AE) /TR7000 GRAM AI /TR7000 TURE EFF /TR7000 IU) /TR7000	E/TR7100E) E) E/TR7100E) ECT)
D003 D005 D006 D008 D013	8-719-062-16 8-719-073-03 8-719-073-03 8-719-073-01 8-719-073-03	DIODE MA8082- DIODE MA8082- DIODE MA8082- DIODE MA111-(k DIODE MA8082-(	(TPT:TR7000/TI TPL3) (TR7000/TI (K8).S0 (K8).S0 (K8).S0 (K8).S0 (K8).S0	R7000E	/TR7100E)	\$003 \$004 \$004 \$006 \$010 \$010	1-771-138-61 1-771-029-21 1-771-138-61 1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21	SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII SWITCH, KEY B (EXCI	OARD (DATI LE (PROGRA EPT:TR7000 OARD (PRO (TR7000 OARD (PICT LE (MENU) (TR7000 OARD (MEN EPT:TR7000 LE (EXPOSU	E CORD) AM AE) /TR7000 GRAM AI /TR7000 TURE EFF /TR7000 IU) /TR7000 IRE)	E/TR7100E) E/TR7100E) ECT)  E/TR7100E) E/TR7100E)
D003 D005 D006 D008 D013	8-719-062-16 8-719-073-03 8-719-073-03 8-719-073-01 8-719-073-03 8-759-573-02	DIODE MA8082-DIODE MA8082-DIODE MA8082-DIODE MA8082-COLODE	(TPT:TR7000/TI TPL3) (TR7000/TI (K8).S0 (K8).S0 (K8).S0 (K8).S0 (K8).S0	R7000E	/TR7100E)	\$003 \$004 \$004 \$006 \$010	1-771-138-61 1-771-029-21 1-771-138-61 1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21	SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII SWITCH, KEY B (EXCI SWITCH, TACTII SWITCH, TACTII SWITCH, KEY B	OARD (DATI LE (PROGRA EPT:TR7000 OARD (PRO (TR7000 OARD (PICT LE (MENU) (TR7000 OARD (MEN EPT:TR7000 LE (EXPOSU OARD (END	E CORD) AM AE) /TR7000 GRAM AI /TR7000 URE EFF /TR7000 IU) /TR7000 IRE) SEARCH	E/TR7100E) E/TR7100E) ECT)  E/TR7100E) E/TR7100E)
D003 D005 D006 D008 D013	8-719-062-16 8-719-073-03 8-719-073-03 8-719-073-01 8-719-073-03 8-759-573-02	DIODE MA8082-DIODE MA8082-DIODE MA8082-DIODE MA8082-COLOR	(TPT:TR7000/TI TPL3) (TR7000/TI (K8).S0 (K8).S0 (K8).S0 (K8).S0 (K8).S0	R7000E.	7TR7100E)	\$003 \$004 \$004 \$006 \$010 \$010	1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21 1-771-138-61	SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII SWITCH, KEY B (EXCI SWITCH, TACTII SWITCH, TACTII SWITCH, KEY B	OARD (DATI LE (PROGRA EPT:TR7000 OARD (PRO OARD (PICT LE (MENU) (TR7000 OARD (MEN EPT:TR7000 LE (EXPOSU OARD (END EPT:TR7000	E CORD) AM AE) /TR7000 GRAM AI /TR7000 URE EFF /TR7000 IU) /TR7000 JRE) SEARCH /TR7000	E/TR7100E) E) E/TR7100E) ECT)  E/TR7100E) E/TR7100E)
D003 D005 D006 D008 D013 IC001	8-719-062-16 8-719-073-03 8-719-073-01 8-719-073-01 8-719-073-03 8-759-573-02 8-729-420-50 8-729-230-63	(EXCE DIODE O1ZA8.2(1) DIODE MA8082- DIODE MA8082- DIODE MA111-(K) DIODE MA8082-( < IC > IC BU9735K-E2 ( < TRANSISTOR > TRANSISTOR UN (EXCEPT:TRV3 TRANSISTOR 2S	(TPT:TR7000/TI TPL3) (TR7000/TI (K8).S0 (K8).S0 (K8).S0 (K8).S0 (TR7000/TR70 (TR7000/TR70 (TR7000/TI (D1819A-QRS	R7000E.	7TR7100E)	\$003 \$004 \$004 \$006 \$010 \$010 \$012 \$013	1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21 1-771-138-61	SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII SWITCH, KEY B (EXCI SWITCH, TACTII SWITCH, TACTII SWITCH, KEY B	OARD (DATI LE (PROGRA EPT:TR7000 OARD (PRO OARD (PICT LE (MENU) (TR7000 OARD (MEN EPT:TR7000 LE (EXPOSU OARD (END EPT:TR7000	E CORD) AM AE) /TR7000 GRAM AI /TR7000 'URE EFF /TR7000 IU) /TR7000 IRE) SEARCH /TR7000	E/TR7100E) E) E/TR7100E) ECT)  E/TR7100E) E/TR7100E)
D003 D005 D006 D008 D013 IC001	8-719-062-16 8-719-073-03 8-719-073-01 8-719-073-01 8-719-073-03 8-759-573-02 8-729-420-50 8-729-230-63	(EXCE DIODE 01ZA8.2(1) DIODE MA8082- DIODE MA8082- DIODE MA111-(K) DIODE MA8082-( < IC > IC BU9735K-E2 ( < TRANSISTOR > TRANSISTOR UN (EXCEPT:TRV3	(TPT:TR7000/TI TPL3) (TR7000/TI (K8).S0 (K8).S0 (K8).S0 (K8).S0 (TR7000/TR70 (TR7000/TR70 (TR7000/TI (D1819A-QRS	R7000E.	7TR7100E)	\$003 \$004 \$004 \$006 \$010 \$010 \$012 \$013 \$015	1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21 1-771-138-61 1-771-025-41	SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII SWITCH, KEY B (EXCI SWITCH, TACTII SWITCH, TACTII SWITCH, KEY B (EXCI SWITCH, ROTAF	OARD (DATI LE (PROGRA EPT:TR7000 OARD (PRO (TR7000 OARD (PICT LE (MENU) (TR7000 OARD (MEN EPT:TR7000 LE (EXPOSU OARD (END EPT:TR7000 RY (ENCODE	E CORD) AM AE) /TR7000 GRAM AI /TR7000 TURE EFF /TR7000 IU) /TR7000 IRE) SEARCH /TR7000 ER) (SEL/F	E/TR7100E) E/TR7100E) E/TR7100E) E/TR7100E) E/TR7100E) E/TR7100E)
D003 D005 D006 D008 D013 IC001	8-719-062-16 8-719-073-03 8-719-073-01 8-719-073-01 8-719-073-03 8-759-573-02 8-729-420-50 8-729-230-63	(EXCE DIODE O1ZA8.2(1) DIODE MA8082- DIODE MA8082- DIODE MA111-(K) DIODE MA8082-( < IC > IC BU9735K-E2 ( < TRANSISTOR > TRANSISTOR UN (EXCEPT:TRV3 TRANSISTOR 2S TRANSISTOR 2S	(TPT:TR7000/TI TPL3) (TR7000/TI (K8).S0 (K8).S0 (K8).S0 (K8).S0 (TR7000/TR70 (TR7000/TR70 (TR7000/TI (D1819A-QRS	R7000E.	7TR7100E)	\$003 \$004 \$004 \$006 \$010 \$010 \$012 \$013	1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21 1-771-138-61 1-771-025-41	SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII SWITCH, KEY B (EXCI SWITCH, TACTII SWITCH, KEY B (EXCI SWITCH, TACTII SWITCH, ROTAF	OARD (DATI LE (PROGRA EPT:TR7000 OARD (PRO (TR7000 OARD (PICT LE (MENU) (TR7000 OARD (MEN EPT:TR7000 LE (EXPOSU OARD (END EPT:TR7000 RY (ENCODE	E CORD) AM AE) /TR7000 GRAM AI /TR7000 **URE EFF /TR7000 IU) /TR7000 IRE) SEARCH /TR7000 ER) (SEL/F	E/TR7100E) E/TR7100E) E/TR7100E) E/TR7100E) E/TR7100E) I) E/TR7100E) PUSH EXEC)
D003 D005 D006 D008 D013 IC001	8-719-062-16 8-719-073-03 8-719-073-01 8-719-073-01 8-719-073-03 8-759-573-02 8-729-420-50 8-729-230-63	(EXCE DIODE O1ZA8.2(1) DIODE MA8082- DIODE MA8082- DIODE MA111-(K) DIODE MA8082-( < IC > IC BU9735K-E2 ( < TRANSISTOR > TRANSISTOR UN (EXCEPT:TRV3 TRANSISTOR 2S	(TPT:TR7000/TI TPL3) (TR7000/TI (K8).S0 (K8).S0 (K8).S0 (K8).S0 (TR7000/TR70 (TR7000/TR70 (TR7000/TI (D1819A-QRS	R7000E.	7TR7100E)	\$003 \$004 \$004 \$006 \$010 \$010 \$012 \$013 \$015	1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21 1-771-138-61 1-771-025-41 1-771-029-21	SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII SWITCH, KEY B (EXCI SWITCH, TACTII SWITCH, KEY B (EXCI SWITCH, ROTAF SWITCH, TACTII SWITCH, ROTAF	OARD (DATI LE (PROGRA EPT:TR7000 OARD (PRO (TR7000 OARD (PICT LE (MENU) (TR7000 OARD (MEN EPT:TR7000 LE (EXPOSU OARD (END EPT:TR7000 RY (ENCODE	E CORD) AM AE) /TR7000 GRAM AI /TR7000 'URE EFF  /TR7000 IU) /TR7000 IRE) SEARCH /TR7000 ER) (SEL/F	E/TR7100E) E/TR7100E) E/TR7100E) E/TR7100E) E/TR7100E) PUSH EXEC) E/TR7100E)
D003 D005 D006 D008 D013 IC001 Q001 Q003 Q005	8-719-062-16 8-719-073-03 8-719-073-01 8-719-073-01 8-719-073-02 8-759-573-02 8-729-420-50 8-729-230-63 8-729-230-72	(EXCE DIODE (EXCE) DIODE MA8082- DIODE MA8082- DIODE MA111-(K DIODE MA8082- < IC > IC BU9735K-E2 ( < TRANSISTOR > TRANSISTOR UN (EXCEPT:TRV3 TRANSISTOR 2S TRANSISTOR 2S	(TPT:TR7000/TI TPL3) (TR7000/TI (K8).S0 (K8).S0 (K8).S0 (K8).S0 (TR7000/TR70 (TR7000/TR70 (TR7000/TI (D1819A-QRS) (A1362-YG-EL	R7000E. R7000E. R7000E. G-TX	/TR7100E)	\$003 \$004 \$004 \$006 \$010 \$010 \$012 \$013 \$015	1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21 1-771-138-61 1-771-025-41 1-771-029-21	SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII SWITCH, KEY B (EXCI SWITCH, TACTII SWITCH, KEY B (EXCI SWITCH, TACTII SWITCH, ROTAF	OARD (DATI LE (PROGRA EPT:TR7000 OARD (PRO (TR7000 OARD (PICT LE (MENU) (TR7000 OARD (MEN EPT:TR7000 LE (EXPOSU OARD (END EPT:TR7000 RY (ENCODE	E CORD) AM AE) /TR7000 GRAM AI /TR7000 TURE EFF /TR7000 IU) /TR7000 IRE) SEARCH /TR7000 ER) (SEL/F GHT) /TR7000 K LIGHT)	E/TR7100E) E/TR7100E) E/TR7100E) E/TR7100E) E/TR7100E) PUSH EXEC) E/TR7100E)
D003 D005 D006 D008 D013 IC001 Q001 Q003 Q005	8-719-062-16 8-719-073-03 8-719-073-01 8-719-073-03 8-719-073-03 8-759-573-02 8-729-420-50 8-729-230-63 8-729-230-72	(EXCE DIODE (EXCE) DIODE MA8082- DIODE MA8082- DIODE MA111-(K DIODE MA8082-(  < IC >  IC BU9735K-E2 (  < TRANSISTOR >  TRANSISTOR UN (EXCEPT:TRV3 TRANSISTOR 2S TRANSISTOR 2S  < RESISTOR >  METAL CHIP	EPT:TR7000/TI TPL3) (TR7000/TI (K8).S0 (K8).S0 (K8).S0 (K8).S0 (TR7000/TR70 (TR7000	R7000E. R7000ETX -	/TR7100E) /TR7100E) /TR7100E)	\$003 \$004 \$004 \$006 \$010 \$010 \$012 \$013 \$015 \$017	1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21 1-771-138-61 1-771-025-41 1-771-029-21 1-771-138-61	SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII SWITCH, KEY B (EXCI SWITCH, TACTII SWITCH, KEY B (EXCI SWITCH, ROTAF SWITCH, TACTII SWITCH, ROTAF	OARD (DATI LE (PROGRA EPT:TR7000 OARD (PRO (TR7000 OARD (PICT LE (MENU) (TR7000 OARD (MEN EPT:TR7000 LE (EXPOSU OARD (END EPT:TR7000 RY (ENCODE LE (BACK LI EPT:TR7000 OARD (BACI (TR7000	E CORD) AM AE) /TR7000 GRAM AI /TR7000 TURE EFF /TR7000 IU) /TR7000 SEARCH /TR7000 ER) (SEL/F GHT) /TR7000 K LIGHT) /TR7000	E/TR7100E) E/TR7100E) E/TR7100E) E/TR7100E) E/TR7100E) PUSH EXEC) E/TR7100E)
D003 D005 D006 D008 D013 IC001 Q001 Q003 Q005	8-719-062-16 8-719-073-03 8-719-073-01 8-719-073-01 8-719-073-02 8-759-573-02 8-729-420-50 8-729-230-63 8-729-230-72	(EXCE DIODE (EXCE) DIODE MA8082- DIODE MA8082- DIODE MA111-(K DIODE MA8082- < IC > IC BU9735K-E2 ( < TRANSISTOR > TRANSISTOR UN (EXCEPT:TRV3 TRANSISTOR 2S TRANSISTOR 2S	EPT:TR7000/TI TPL3) (TR7000/TI (K8).S0 (K8).S0 (K8).S0 (K8).S0 (TR7000/TR70 (TR7000	R7000E. R7000E. R7000E. G-TX	/TR7100E)	\$003 \$004 \$004 \$006 \$010 \$010 \$012 \$013 \$015	1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21 1-771-138-61 1-771-025-41 1-771-029-21 1-771-138-61	SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII SWITCH, TACTII SWITCH, TACTII SWITCH, TACTII SWITCH, ROTAF SWITCH, TACTII SWITCH, ROTAF SWITCH, TACTII SWITCH, KEY B SWITCH, KEY B	OARD (DATI LE (PROGRA EPT:TR7000 OARD (PRO (TR7000 OARD (PICT LE (MENU) (TR7000 OARD (MEN EPT:TR7000 LE (EXPOSU OARD (END EPT:TR7000 RY (ENCODE LE (BACK LI EPT:TR7000 OARD (BACI (TR7000 OARD (DISF	E CORD) AM AE) /TR7000 GRAM AI /TR7000 TURE EFF  /TR7000 IU) /TR7000 ER) (SEL/F GHT) /TR7000 K LIGHT) /TR7000 PLAY)	E/TR7100E) E/TR7100E) E/TR7100E) E/TR7100E) E/TR7100E) PUSH EXEC) E/TR7100E)
D003 D005 D006 D008 D013 IC001 Q001 Q003 Q005 R003 R005 R006 R007	8-719-062-16 8-719-073-03 8-719-073-01 8-719-073-01 8-719-073-02 8-759-573-02 8-729-420-50 8-729-230-63 8-729-230-72 1-216-814-11 1-216-833-11 1-216-833-11	(EXCE DIODE (EXCE) DIODE MA8082- DIODE MA8082- DIODE MA8082- DIODE MA8082- (IC > IC BU9735K-E2 ( < TRANSISTOR > TRANSISTOR UN (EXCEPT:TRV3 TRANSISTOR 2S TRANSISTOR 2S < RESISTOR > METAL CHIP METAL CHIP METAL CHIP METAL CHIP METAL CHIP	EPT:TR7000/TI TPL3) (TR7000/TI (K8).S0 (K8).S0 (K8).S0 (K8).S0 (TR7000/TR70 (TR700)	R7000E.  R7000E.  -TX -  5% 5%	7/TR7100E)  7/TR7100E)  7/TR7100E)	\$003 \$004 \$004 \$006 \$010 \$010 \$012 \$013 \$015 \$017	1-771-138-61 1-771-029-21 1-771-138-61 1-771-138-61 1-771-029-21 1-771-138-61 1-771-025-41 1-771-029-21 1-771-138-61 1-771-138-61 1-771-138-61 1-771-138-61 1-771-138-61	SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII SWITCH, TACTII SWITCH, TACTII SWITCH, TACTII SWITCH, ROTAF SWITCH, TACTII SWITCH, KEY B (EXCI SWITCH, TACTII SWITCH, KEY B SWITCH, KEY B SWITCH, KEY B SWITCH, KEY B	OARD (DATI LE (PROGRA EPT:TR7000 OARD (PRO (TR7000 OARD (PICT LE (MENU) (TR7000 OARD (MEN EPT:TR7000 LE (EXPOSU OARD (END EPT:TR7000 RY (ENCODE LE (BACK LI EPT:TR7000 OARD (BACI (TR7000 OARD (DISF EPT:TR7000 (START/ST0	E CORD) AM AE) /TR7000 GRAM AI /TR7000 TURE EFF  /TR7000 IU) /TR7000 ER) (SEL/F  GHT) /TR7000 K LIGHT) /TR7000 PLAY) /TR7000	E/TR7100E) E/TR7100E) E/TR7100E) E/TR7100E) E/TR7100E) PUSH EXEC) E/TR7100E) E/TR7100E) E/TR7100E) E/TR7100E)
D003 D005 D006 D008 D013 IC001 Q001 Q003 Q005 R003 R005 R006	8-719-062-16 8-719-073-03 8-719-073-01 8-719-073-01 8-719-073-02 8-759-573-02 8-729-420-50 8-729-230-63 8-729-230-72 1-216-814-11 1-216-833-11 1-216-833-11	(EXCE DIODE (EXCE) DIODE MA8082- DIODE MA8082- DIODE MA8082- DIODE MA8082- (IC > IC BU9735K-E2 ( < TRANSISTOR > TRANSISTOR UN (EXCEPT:TRV3 TRANSISTOR 2S TRANSISTOR 2S < RESISTOR > METAL CHIP METAL CHIP METAL CHIP METAL CHIP	PT:TR7000/TI TPL3) (TR7000/TI (K8).S0 (K8).S0 (K8).S0 (K8).S0 (K8).S0 (TR7000/TR70 (TR700)/TR70 (TR7000/TR70 (TR700)/TR70	R7000E.  R7000E.  -TX -  5% 5% 5%	7/TR7100E)  7/TR7100E)  7/TR7100E)  1/16W 1/16W 1/16W 1/16W	\$003 \$004 \$004 \$006 \$010 \$010 \$012 \$013 \$015 \$017 \$017	1-771-138-61 1-771-029-21 1-771-138-61 1-771-138-61 1-771-029-21 1-771-138-61 1-771-025-41 1-771-029-21 1-771-138-61 1-771-138-61 1-771-138-61 1-771-138-61 1-771-138-61	SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII SWITCH, KEY B (EXCI SWITCH, TACTII SWITCH, TACTII SWITCH, ROTAF SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, KEY B SWITCH, KEY B SWITCH, SLIDE SWITCH, TACTII	OARD (DATI LE (PROGRA EPT:TR7000 OARD (PRO	E CORD) AM AE) /TR7000 GRAM AI /TR7000 'URE EFF  /TR7000 IU) /TR7000 JRE) SEARCH /TR7000 ER) (SEL/F  GHT) /TR7000 K LIGHT) /TR7000 PLAY) /TR7000 OP MODE	E/TR7100E) E) E/TR7100E)
D003 D005 D006 D008 D013 IC001 Q001 Q003 Q005 R003 R005 R006 R007 R008	8-719-062-16 8-719-073-03 8-719-073-03 8-719-073-01 8-719-073-02 8-729-420-50 8-729-230-63 8-729-230-72 1-216-814-11 1-216-833-11 1-216-833-11 1-216-833-11	(EXCE DIODE 01ZA8.2(1) DIODE MA8082-( DIODE MA8082-( DIODE MA8082-( DIODE MA8082-( C C C C C C C C C C C C C C C C C C C	EPT:TR7000/TI TPL3) (TR7000/TI (K8).S0 (K8).S0 (K8).S0 (K8).S0 (TR7000/TR70 (TR700)/TR70 (TR700)/TR70 (TR700)/TR70 (TR700)	R7000E.  R7000E.  R7000E.  -TX -  5% 5% 5% 5% 5%	7/TR7100E)  7/TR7100E)  7/TR7100E)  1/16W 1/16W 1/16W 1/16W 1/16W	\$003 \$004 \$004 \$006 \$010 \$010 \$012 \$013 \$015 \$017 \$017 \$022 \$024	1-771-138-61 1-771-029-21 1-771-138-61 1-771-138-61 1-771-029-21 1-771-138-61 1-771-025-41 1-771-029-21 1-771-138-61 1-771-138-61 1-771-138-61 1-771-138-61 1-771-138-61	SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII SWITCH, KEY B (EXCI SWITCH, TACTII SWITCH, TACTII SWITCH, ROTAF SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, KEY B SWITCH, KEY B SWITCH, SLIDE SWITCH, TACTII	OARD (DATI LE (PROGRA EPT:TR7000 OARD (PRO	E CORD) AM AE) /TR7000 GRAM AI /TR7000 'URE EFF  /TR7000 IU) /TR7000 JRE) SEARCH /TR7000 ER) (SEL/F  GHT) /TR7000 K LIGHT) /TR7000 PLAY) /TR7000 OP MODE	E/TR7100E) E/TR7100E) E/TR7100E) E/TR7100E) E/TR7100E) PUSH EXEC) E/TR7100E) E/TR7100E) E/TR7100E) E/TR7100E)
D003 D005 D006 D008 D013 IC001 Q001 Q003 Q005 R003 R005 R006 R007 R008 R009	8-719-062-16 8-719-073-03 8-719-073-03 8-719-073-01 8-719-073-02 8-729-420-50 8-729-230-63 8-729-230-72 1-216-814-11 1-216-833-11 1-216-833-11 1-216-833-11 1-216-833-11	(EXCE DIODE 01ZA8.2(1) DIODE MA8082-( DIODE MA8082-( DIODE MA8082-( DIODE MA8082-( C TRANSISTOR S  TRANSISTOR S  TRANSISTOR S  WETAL CHIP METAL CHIP	EPT:TR7000/TI TPL3) (TR7000/TI (K8).S0 (K8).S0 (K8).S0 (K8).S0 (TR7000/TR70 (TR700)/TR70 (TR700)/TR70 (TR700)/TR70 (TR700)	R7000E.  R7000E.  R7000E.  S-TX  -  5% 5% 5% 5% 5% 5%	7/TR7100E)  7/TR7100E)  7/TR7100E)  1/16W 1/16W 1/16W 1/16W 1/16W	\$003 \$004 \$004 \$006 \$010 \$010 \$012 \$013 \$015 \$017 \$017 \$022 \$024 \$027	1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21 1-771-138-61 1-771-025-41 1-771-029-21 1-771-138-61 1-771-138-61 1-771-138-61 1-771-138-61 1-762-648-21 1-771-029-31	SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII SWITCH, KEY B (EXCI SWITCH, TACTII SWITCH, TACTII SWITCH, ROTAF SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, KEY B SWITCH, KEY B SWITCH, SLIDE SWITCH, TACTII (EXCI	OARD (DATI LE (PROGRA EPT:TR7000 OARD (PRO (TR7000 OARD (PICT LE (MENU) (TR7000 OARD (MEN EPT:TR7000 LE (EXPOSU OARD (END EPT:TR7000 CARD (BACK (TR7000 OARD (BACK (TR7000 OARD (DISF EPT:TR7000 (START/STO LE (FADER) EPT:TR7000	E CORD) AM AE) /TR7000 GRAM AI /TR7000 'URE EFF  /TR7000 IU) /TR7000 JRE) SEARCH /TR7000 ER) (SEL/F GHT) /TR7000 K LIGHT) /TR7000 PLAY) /TR7000 OP MODE	E/TR7100E) E) E/TR7100E)
D003 D005 D006 D008 D013 IC001 Q001 Q003 Q005 R003 R005 R006 R007 R008	8-719-062-16 8-719-073-03 8-719-073-03 8-719-073-01 8-719-073-02 8-729-420-50 8-729-230-63 8-729-230-72 1-216-814-11 1-216-833-11 1-216-833-11 1-216-833-11	(EXCE DIODE 01ZA8.2(1) DIODE MA8082-( DIODE MA8082-( DIODE MA8082-( DIODE MA8082-( C C C C C C C C C C C C C C C C C C C	(TPT:TR7000/TI TPL3) (TR7000/TI (K8).S0 (K8).S0 (K8).S0 (K8).S0 (TR7000/TR70 (TR700)/TR70 (TR700)/TR70 (TR700)/TR70 (TR700	R7000E.  R7000E.  R7000E.  S7000E.  5% 5% 5% 5% 5% 5% 5%	7/TR7100E)  27100E)  7/TR7100E)  1/16W 1/16W 1/16W 1/16W 1/16W 1/16W	\$003 \$004 \$004 \$006 \$010 \$010 \$012 \$013 \$015 \$017 \$017 \$022 \$024	1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21 1-771-138-61 1-771-025-41 1-771-029-21 1-771-138-61 1-771-138-61 1-771-138-61 1-771-138-61 1-762-648-21 1-771-029-31	SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII SWITCH, KEY B (EXCI SWITCH, TACTII SWITCH, TACTII SWITCH, ROTAF SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, KEY B SWITCH, KEY B SWITCH, SLIDE SWITCH, TACTII	OARD (DATI LE (PROGRA EPT:TR7000 OARD (PRO	E CORD) AM AE) /TR7000 GRAM AI /TR7000 'URE EFF  /TR7000 IU) /TR7000 JRE) SEARCH /TR7000 K LIGHT) /TR7000 K LIGHT) /TR7000 PLAY) /TR7000 PLAY) /TR7000 /TR7000 PLAY) /TR7000 /TR7000 PLAY) /TR7000	E/TR7100E)
D003 D005 D006 D008 D013 IC001 Q001 Q003 Q005 R003 R005 R006 R007 R008 R009 R011	8-719-062-16 8-719-073-03 8-719-073-03 8-719-073-01 8-719-073-02 8-729-420-50 8-729-230-63 8-729-230-72  1-216-814-11 1-216-833-11 1-216-833-11 1-216-833-11 1-216-833-11 1-216-855-11	(EXCE DIODE 01ZA8.2(1) DIODE MA8082-( DIODE MA8082-( DIODE MA8082-( DIODE MA8082-( C C C C C C C C C C C C C C C C C C C	(TPT:TR7000/TI TPL3) (TR7000/TI (K8).S0 (K8).S0 (K8).S0 (K8).S0 (K8).S0 (TR7000/TR70 (TR7000/TR70 (TR7000/TR70 (TR7000/TI 15/TR7000/TI 15/TR7000/TI 10K	R7000E.  R7000E.  R7000E.  S7000E.  S7000E.  S7000E.  S7000E.  S7000E.	7/TR7100E)  27100E)  7/TR7100E)  1/16W 1/16W 1/16W 1/16W 1/16W 1/16W 1/16W 1/16W 1/16W	\$003 \$004 \$004 \$006 \$010 \$010 \$012 \$013 \$015 \$017 \$017 \$022 \$024 \$027	1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21 1-771-138-61 1-771-025-41 1-771-029-21 1-771-138-61 1-771-138-61 1-771-138-61 1-771-138-61 1-762-648-21 1-771-029-31	SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII SWITCH, KEY B (EXCI SWITCH, TACTII SWITCH, TACTII SWITCH, ROTAF SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, KEY B SWITCH, KEY B SWITCH, SLIDE SWITCH, TACTII (EXCI	OARD (DATI LE (PROGRA EPT:TR7000 OARD (PRO	E CORD) AM AE) /TR7000 GRAM AI /TR7000 'URE EFF  /TR7000 IU) /TR7000 JRE) SEARCH /TR7000 K LIGHT) /TR7000 K LIGHT) /TR7000 PLAY) /TR7000 PLAY) /TR7000 /TR7000 PLAY) /TR7000 /TR7000 PLAY) /TR7000	E/TR7100E) E) E/TR7100E)
D003 D005 D006 D008 D013 IC001 Q001 Q003 Q005 R003 R005 R006 R007 R008 R009	8-719-062-16 8-719-073-03 8-719-073-03 8-719-073-01 8-719-073-02 8-729-420-50 8-729-230-63 8-729-230-72 1-216-814-11 1-216-833-11 1-216-833-11 1-216-833-11 1-216-833-11	(EXCE DIODE 01ZA8.2(1) DIODE MA8082-( DIODE MA8082-( DIODE MA8082-( DIODE MA8082-( C TRANSISTOR S  TRANSISTOR S  TRANSISTOR S  WETAL CHIP METAL CHIP	(TPT:TR7000/TI TPL3) (TR7000/TI (K8).S0 (K8).S0 (K8).S0 (K8).S0 (K8).S0 (TR7000/TR70 (TR7000/TR70 (TR7000/TR70 (TR7000/TI 15/TR7000/TI 15/TR7000/TI 10K	R7000E.  R7000E/TR  R7000E.  5% 5% 5% 5% 5% R7000E.  5%	7/TR7100E)  27100E)  1/16W 1/16W 1/16W 1/16W 1/16W 1/16W 1/16W 1/16W 1/16W	\$003 \$004 \$004 \$006 \$010 \$010 \$012 \$013 \$015 \$017 \$017 \$022 \$024 \$027	1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21 1-771-138-61 1-771-025-41 1-771-029-21 1-771-138-61 1-771-138-61 1-771-138-61 1-771-138-61 1-762-648-21 1-771-029-31	SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII SWITCH, KEY B (EXCI SWITCH, TACTII SWITCH, TACTII SWITCH, ROTAF SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, KEY B SWITCH, KEY B SWITCH, SLIDE SWITCH, TACTII (EXCI	OARD (DATI LE (PROGRA EPT:TR7000 OARD (PRO	E CORD) AM AE) /TR7000 GRAM AI /TR7000 'URE EFF  /TR7000 IU) /TR7000 JRE) SEARCH /TR7000 K LIGHT) /TR7000 K LIGHT) /TR7000 PLAY) /TR7000 PLAY) /TR7000 /TR7000 PLAY) /TR7000 /TR7000 PLAY) /TR7000	E/TR7100E)
D003 D005 D006 D008 D013 IC001 Q001 Q003 Q005 R003 R005 R006 R007 R008 R009 R011 R012 R013	8-719-062-16 8-719-073-03 8-719-073-01 8-719-073-01 8-719-073-02 8-729-420-50 8-729-230-63 8-729-230-72  1-216-814-11 1-216-833-11 1-216-833-11 1-216-833-11 1-216-855-11 1-216-855-11 1-216-864-11 1-216-822-11	(EXCE DIODE (EXCE) DIODE MA8082-( DIODE MA8082-( DIODE MA8082-( DIODE MA8082-( DIODE MA8082-( C > (C >	(TPT:TR7000/TI TPL3) (TR7000/TI (K8).S0 (K8).S0 (K8).S0 (K8).S0 (K8).S0 (TR7000/TR70 (TR7000/TR70 (TR7000/TI 10K	R7000E.  R7000E/TR  R7000E.  5% 5% 5% 5% 87000E. 5% R7000E. 5%	7/TR7100E)  27100E)  7/TR7100E)  1/16W	\$003 \$004 \$004 \$006 \$010 \$010 \$012 \$013 \$015 \$017 \$017 \$022 \$024 \$027	1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21 1-771-138-61 1-771-025-41 1-771-029-21 1-771-138-61 1-771-138-61 1-771-138-61 1-771-138-61 1-762-648-21 1-771-029-31	SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII SWITCH, KEY B (EXCI SWITCH, TACTII SWITCH, TACTII SWITCH, ROTAF SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, KEY B SWITCH, KEY B SWITCH, SLIDE SWITCH, TACTII (EXCI	OARD (DATI LE (PROGRA EPT:TR7000 OARD (PRO	E CORD) AM AE) /TR7000 GRAM AI /TR7000 'URE EFF  /TR7000 IU) /TR7000 JRE) SEARCH /TR7000 K LIGHT) /TR7000 K LIGHT) /TR7000 PLAY) /TR7000 PLAY) /TR7000 /TR7000 PLAY) /TR7000 /TR7000 PLAY) /TR7000	E/TR7100E)
D003 D005 D006 D008 D013 IC001 Q001 Q003 Q005 R003 R005 R006 R007 R008 R009 R011 R012	8-719-062-16 8-719-073-03 8-719-073-03 8-719-073-01 8-719-073-02 8-729-420-50 8-729-230-63 8-729-230-72 1-216-814-11 1-216-833-11 1-216-833-11 1-216-833-11 1-216-855-11 1-216-855-11	CEXCE DIODE 01ZA8.2(1) DIODE MA8082-( DIODE MA8082-( DIODE MA8082-( DIODE MA8082-( CONTROL OF CONTR	(TPT:TR7000/TI TPL3) (TR7000/TI (K8).S0 (K8).S0 (K8).S0 (K8).S0 (K8).S0 (TR7000/TR70 (TR7000/TR70 (TR7000/TI 10K	R7000E.  R7000E/TR  R7000E.  5% 5% 5% 5% 5% R7000E. 5% R7000E. 5% 87000E.	7/TR7100E)  7/TR7100E)  7/TR7100E)  7/TR7100E)  1/16W	\$003 \$004 \$004 \$006 \$010 \$010 \$012 \$013 \$015 \$017 \$017 \$022 \$024 \$027	1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21 1-771-138-61 1-771-029-21 1-771-138-61 1-771-025-41 1-771-029-21 1-771-138-61 1-771-138-61 1-771-138-61 1-771-138-61 1-762-648-21 1-771-029-31	SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, TACTII SWITCH, KEY B (EXCI SWITCH, TACTII SWITCH, TACTII SWITCH, ROTAF SWITCH, TACTII (EXCI SWITCH, KEY B SWITCH, KEY B SWITCH, KEY B SWITCH, KEY B SWITCH, SLIDE SWITCH, TACTII (EXCI	OARD (DATI LE (PROGRA EPT:TR7000 OARD (PRO	E CORD) AM AE) /TR7000 GRAM AI /TR7000 'URE EFF  /TR7000 IU) /TR7000 JRE) SEARCH /TR7000 K LIGHT) /TR7000 K LIGHT) /TR7000 PLAY) /TR7000 PLAY) /TR7000 /TR7000 PLAY) /TR7000 /TR7000 PLAY) /TR7000	E/TR7100E)

(TR7000/TR7000E/TR7100E)

# DD-117

D.C.N.	B	D				l B c N	D	D			Б
Ref. No.	Part No.	<u>Description</u>			<u>Remarks</u>	Ref. No.	Part No.	<u>Description</u>			<u>Remarks</u>
	A-7073-866-A	DD-117(V) BOAR			/TD7100F)	C847 C848		CERAMIC CHIP	4.7uF		16V 16V
		(EXCEPT:TRV31			(/ IR / IUUE)	C848	1-164-506-11 1-135-149-21	CERAMIC CHIP TANTALUM CHIP	4.7uF 2.2uF	20%	10V 10V
	A-7073-917-A	DD-117 (C) BOAR	RD, COMPL	ETE					PT:TR7000/		
		******			E/TR7100E)	C850	1-135-149-21	TANTALUM CHIP		20%	10V
	Δ_7073_922_Δ	DD-117(VC) BOA			V/315)	C851	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V
	A-1013-722-A	******			V313)	C852	1-164-505-11	CERAMIC CHIP	2.2uF		16V
			(F	Ref.No.:60	000 Series)			`	PT:TR7000/	TR7000E	/TR7100E)
		CARACITOR				C853	1-165-319-11	CERAMIC CHIP	0.1uF	TD3000	50V
		< CAPACITOR >				C854	1-135-157-21	(EXCERTANTALUM CHIP	PT:TR7000/ 10uF	1R7000E 20%	6.3V
C801	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V	0004	1 133 137 21	(EXCEPT:TRV31			
C802	1-162-960-11	CERAMIC CHIP	220PF	10%	50V	C855	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
C803	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V	C856	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C804 C805	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V 16V	COET	1 105 157 01	TANTAL LIM CLUD	10	200/	4.2
C805	1-107-826-91	CERAMIC CHIP	0.1uF	10%	107	C857 C860	1-135-157-21 1-107-826-91	TANTALUM CHIP CERAMIC CHIP	10uF 0.1uF	20% 10%	6.3 16V
C806	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V	C861	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C807	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V			(EXCEPT:TRV/3	15TR7000/	TR7000E	/TR7100E)
C808	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V	C861	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C809	1-162-962-11	CERAMIC CHIP	470PF	10%	50V	2010	4 4 / 4 007 44		15/TR7000/		
C810	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	C862	1-164-227-11	CERAMIC CHIP	0.022uF PT:TR7000/	10%	25V :/TD7100F)
C811	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V			(LXCLI	1.11(7000/	TIX 7 O O O L	/TIC/TOOL)
C812	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C863	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C813	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V			(EXCER	PT:TR7000/	TR7000E	/TR7100E)
C815	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C864	1-113-985-11	TANTAL. CHIP	10uF	20%	20V
C817	1-113-991-11	TANTAL. CHIP	33uF	20%	16V	C865	1-164-505-11	CERAMIC CHIP	2.2uF PT:TR7000/	TD7000E	16V
C818	1-163-038-91	CERAMIC CHIP	0.1uF		25V	C866	1-164-505-11	,	2.2uF	1K/000E	16V
C819	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	0000	1 101 000 11		PT:TR7000/	TR7000E	
C820	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V	C867	1-164-346-11	CERAMIC CHIP	1uF		16V
C821	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V			(TRV31	15/TR7000/	TR7000E	/TR7100E)
C823	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V	C868	1-135-214-21	TANTAL. CHIP	4.7uF	20%	20V
C824	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V	C869	1-133-214-21	CERAMIC CHIP	4.7uF 2.2uF	20%	20V 16V
C825	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V	0007	1 101 000 11		PT:TR7000/	TR7000E	
C826	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V	C871	1-135-157-21	TANTALUM CHIP	10uF	20%	6.3V
0007		•			E/TR7100E)	C872	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C827	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V E/TR7100E)	C873	1-164-227-11	CERAMIC CHIP	0.022uF PT:TR7000/	10%	25V (TD7100E)
C828	1-162-962-11	CERAMIC CHIP		10%	50V			(EXCER	-1.1K/000/	1K/000E	/TR/TOUE)
0020	02 /02				E/TR7100E)	C875	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
					•			(EXCER	PT:TR7000/		/TR7100E)
C829	1-162-966-11		0.0022uF		50V	C876		CERAMIC CHIP	0.1uF	10%	16V
C830	1 162 066 11	`	71:1R7000/ 0.0022uF		E/TR7100E) 50V	C877	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
0030	1-102-900-11				50V E/TR7100E)			< CONNECTOR >			
C831	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V						
		•			E/TR7100E)	* CN801		PIN, CONNECTOR			
C832	1-115-566-11		4.7uF	10%	10V	CN931	1-774-597-41	CONNECTOR, BO			
C833	1-162-974-11	CERAMIC CHIP	0.01uF	TDZOOOE	50V E/TR7100E)	CN931	1 702 120 21	CONNECTOR, BO			/TR7100E)
		(LACLI	- 1.1K/000/	TK/000L	/1K/100L)	CINTSI	1-793-129-21	CONNECTOR, BO			/TR7100E)
C834	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V	CN933	1-785-627-21	PIN, CONNECTOR	•		.,
C836	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V			•		TR7000E	/TR7100E)
C837		CERAMIC CHIP	4.7uF	10%	10V	CN934	1-766-342-21	CONNECTOR, FFC	C/FPC 12P		
C838 C840		CERAMIC CHIP CERAMIC CHIP	4.7uF 4.7uF	10% 10%	10V 10V	CN935	1 744 700 11	CONNECTOR, FFC	YEDC (LIE)	10D	
C04U	1-113-300-11				E/TR7100E)	CN935		CONNECTOR, FFC	` '	TUP	
		(LAOLI		, 000L		0.1750	1 001 21	23201011,110			
C841	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V						
C842	1-135-216-11	TANTALUM CHIP		20%	10V						
0042	1 105 157 01	•			E/TR7100E)						
C843 C844		TANTALUM CHIP TANTALUM CHIP		20% 20%	6.3V 6.3V						
C846		TANTALUM CHIP		20%	10V						
			-								

Ref. No.	Part No.	<u>Description</u> <u>Remarks</u>	Ref. No.	Part No.	<u>Description</u> <u>Remarks</u>
		< DIODE >	L816	1-414-396-21	
D806	8-719-027-76	DIODE 1SS357-TPH3	L817	1-414-396-21	(TRV315/TR7000/TR7000E/TR7100E) INDUCTOR 4.7uH
		(EXCEPT:TR7000/TR7000E/TR7100E)	L818	1-414-396-21	INDUCTOR 4.7uH
D809 D810	8-719-027-77 8-719-027-76	DIODE MA796-TX DIODE 1SS357-TPH3	L819	1-414-400-11	(EXCEPT:TR7000/TR7000E/TR7100E) INDUCTOR 33uH
		(EXCEPT:TR7000/TR7000E/TR7100E)	L820	1-424-674-11	INDUCTOR 22uH
D812	8-719-027-76	DIODE 1SS357-TPH3 (EXCEPT:TR7000/TR7000E/TR7100E)			(EXCEPT:TR7000/TR7000E/TR7100E)
D813	8-719-073-03	DIODE MA8082-(K8).S0	L821	1-412-056-11	INDUCTOR CHIP 4.7uH
D814	8-719-073-03	DIODE MA8082-(K8).S0			(EXCEPT:TR7000/TR7000E/TR7100E)
D815	8-719-073-03	DIODE MA8082-(K8).S0			< FUSE >
D816		DIODE 1SS357-TPH3	A DC001	1 57/ 20/ 21	FUCE MUCDO (1 AN/OAV)
D817		DIODE MA728-(K8).SO	⚠ PS801		FUSE, MICRO (1.4A/24V)
D818	8-719-027-76	DIODE 1SS357-TPH3	⚠ PS803		FUSE, MICRO (1.4A/24V)
		(EXCEPT:TR7000/TR7000E/TR7100E)	⚠ PS804 ⚠ PS805		FUSE, MICRO (1.4A/24V) FUSE, MICRO (1.4A/24V)
D819	0 710 072 01	DIODE MA111-(K8).S0	ZEF 3003	1-370-200-21	(EXCEPT:TR7000/TR7000E/TR7100E)
D819		DIODE MA8120-TX		1 576 286 21	FUSE, MICRO (1.4A/24V)
D933		DIODE 01ZA8.2(TPL3)	251 3000	1-370-200-21	103L, WICKO (1.4A/24V)
D934		DIODE 01ZA8.2(TPL3)			< TRANSISTOR >
D936		DIODE 01ZA8.2(TPL3)			THOMASISTORY
D700	0 717 002 10	51052 012/10/2(11 20)	Q801	8-729-024-48	TRANSISTOR 2SK1830-TE85L
			Q803	8-729-804-41	TRANSISTOR 2SB1122-ST-TD
		< FERRITE BEAD >	Q804	8-729-042-29	TRANSISTOR RN1104F(TPL3)
			Q805	8-729-024-48	TRANSISTOR 2SK1830-TE85Ĺ
FB931	1-414-760-21	FERRITE OUH	Q806	8-729-042-29	TRANSISTOR RN1104F(TPL3)
FB931	1-500-238-22	FERRITE OUH			(EXCEPT:TR7000/TR7000E/TR7100E)
FB931	1-500-329-11	INDUCTOR CHIP OUH			
FB932	1-414-760-21	FERRITE OUH	Q807		TRANSISTOR 2SB1122-ST-TD
FB932	1-500-238-22	FERRITE OUH	Q808		TRANSISTOR CPH6702-TL
			Q809		TRANSISTOR CPH6702-TL
FB932		INDUCTOR CHIP OUH	Q810		TRANSISTOR CPH6702-TL
FB933	1-414-760-21		Q812	8-729-044-58	TRANSISTOR SI2304DS-T1
FB933	1-500-238-22		0013	0 720 027 52	TDANICICTOD 2CA1022F V/CD/TDL2V
FB933	1-500-329-11	INDUCTOR CHIP	Q813	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR(TPL3) (EXCEPT:TR7000/TR7000E/TR7100E)
		< IC >	Q814	8-729-046-98	TRANSISTOR CPH6702-TL
			Q815		TRANSISTOR CPH6702-TL
IC801	8-759-384-78	IC SN104241PM-TEB	Q817	8-729-044-58	TRANSISTOR SI2304DS-T1
IC802	8-759-492-30	IC MB3817PFV-G-BND	Q819	8-729-046-98	TRANSISTOR CPH6702-TL
		(EXCEPT:TR7000/TR7000E/TR7100E)			(EXCEPT:TR7000/TR7000E/TR7100E)
		< COIL >	Q820	8-729-042-29	TRANSISTOR RN1104F(TPL3)
			Q823	8-729-042-29	TRANSISTOR RN1104F(TPL3)
L804	1-412-056-11	INDUCTOR CHIP 4.7uH	Q824		TRANSISTOR MGSF3455VTI
		(EXCEPT:TR7000/TR7000E/TR7100E)	Q826		TRANSISTOR RN1104F(TPL3)
L805	1-409-532-41		Q827	8-729-037-61	TRANSISTOR RN2104F(TPL3)
L805	1-424-675-51	INDUCTOR 33uH			(EXCEPT:TR7000/TR7000E/TR7100E)
L806	1-424-674-11	INDUCTOR 22uH	0005	0.700.010.5	TRANSPORTED BANKAGAS/TS: S)
L807	1-424-674-11	INDUCTOR 22uH	Q828	8-729-042-29	TRANSISTOR RN1104F(TPL3)
1 000	1 101 471 11	INDUCTOR 220H	0000	0 720 027 52	(EXCEPT:TR7000/TR7000E/TR7100E)
L808 L809	1-424-674-11 1-424-674-11	INDUCTOR 22uH INDUCTOR 22uH	Q829 Q830		TRANSISTOR 2SA1832F-Y/GR(TPL3) TRANSISTOR 2SA1832F-Y/GR(TPL3)
L809 L810	1-424-674-11	INDUCTOR 22un INDUCTOR 4.7uH	Q830 Q831		TRANSISTOR 25A1832F-1/GR(1PL3) TRANSISTOR SI2301DS-T1
L811	1-414-396-21	INDUCTOR 4.7uH	Q832		TRANSISTOR SI2301DS-T1
L812	1-414-396-21	INDUCTOR 4.7uH	2002	5 ,2,040-13	(EXCEPT:TR7000/TR7000E/TR7100E)
					,
L813	1-414-396-21	INDUCTOR 4.7uH	Q833	8-729-041-23	TRANSISTOR NDS356AP
L814	1-414-396-21				(EXCEPT:TR7000/TR7000E/TR7100E)
1041	4 444 400 4 :	(EXCEPT:TRV315/TR7000/TR7000E/TR7100E)	Q834		TRANSISTOR 2SA1832F-Y/GR(TPL3)
L814	1-414-400-11	INDUCTOR 22uH	Q835	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)
01E	1 /1/ 20/ 21	(TRV315/TR7000/TR7000E/TR7100E)	0024	0 720 027 52	(EXCEPT:TR7000/TR7000E/TR7100E)
L815 L816	1-414-396-21 1-414-396-21	INDUCTOR 4.7uH INDUCTOR 4.7uH	Q836	ŏ-129-U31-53	TRANSISTOR 2SA1832F-Y/GR(TPL3) (EXCEPT:TR7000/TR7000E/TR7100E)
L010	1-414-370-21	(EXCEPT:TRV315/TR7000/TR7000E/TR7100E)	Q837	8-729-037-52	TRANSISTOR 2SD2216J-QR(TX).SO
		(2521	2037	3 ,2, 03, 32	(TRV315/TR7000/TR7000E/TR7100E)
			·		,
				Note:	Note:  Sidentified by Les composants identifiés par

Note:
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Replace only with part number specified.

Les composants identifiés par une marque ∆ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

# DD-117

Ref. No.	Part No.	<u>Description</u>			<u>Remarks</u>	Ref. No.	Part No.	<u>Description</u>			Remarks
Q838	8-729-037-53	TRANSISTOR 2	SA1832F-Y	/GR(TPL3)		R827	1-216-821-11	METAL CHIP	1K	5%	1/16W
			EPT:TR700		/TR7100E)	R828	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
Q839	8-729-037-52	TRANSISTOR 2				R829	1-216-879-11		22K	0.50%	
		, .	EPT:TR700		/TR7100E)	R830	1-218-883-11	- 1	47K	5%	1/16W
Q840	8-729-037-53	TRANSISTOR 2 (EXC	SA1832F-Y EPT:TR700		/TR7100E)	R831	1-216-841-11	METAL CHIP	47K	5%	1/16W
Q841	8-729-037-53	TRANSISTOR 2	SB1462J-Q	R(TX).SO	,	R832	1-216-879-11	RES, CHIP	22K	0.50%	1/16W
		(TRV	315/TR700	0/TR7000E	/TR7100E)	R833	1-216-833-11	METAL CHIP	10K	5%	1/16W
Q842	8-729-037-52	TRANSISTOR 2	SC4738F-Y	/GR(TPL3)	,	R834	1-218-881-11	RES, CHIP	27K	0.50%	1/16W
						R835	1-216-879-11		22K	0.50%	1/16W
Q843	8-729-037-53	TRANSISTOR 2	SA1832F-Y	/GR(TPL3)		R836	1-216-837-11	METAL CHIP	22K	5%	1/16W
Q844	8-729-037-53	TRANSISTOR 2	SA1832F-Y	/GR(TPL3)							
		(EXC	EPT:TR700	0/TR7000E	/TR7100E)	R837	1-216-855-11	RES, CHIP	2.2K	0.50%	1/16W
Q845	8-729-037-52	TRANSISTOR 2				R838	1-216-837-11	METAL CHIP		5%	1/16W
			EPT:TR700		/TR7100E)	R839	1-216-837-11			5%	1/16W
Q846	8-729-037-52	TRANSISTOR 2				R840	1-216-839-11	METAL CHIP		5%	1/16W
00.17			315/TR700		/TR7100E)	R841	1-216-834-11	METAL CHIP	12K	5%	1/16W
Q847	8-729-037-52	TRANSISTOR 2			(TD=1005)	50.40		550 01115	00011	0.500/	
		(EXC	EPT:TR700	0/TR7000E	/TR7100E)	R842	1-218-903-11	RES, CHIP	220K		1/16W
0040	0.700.007.50	TD ANGLOTOD O	0047005 \	(OD/TDL 0)		D0.40	4 040 005 44		XCEPT:TR700		
Q848	8-729-037-52	TRANSISTOR 2		, ,	(TD3400F)	R843	1-218-895-11	- /	100K		1/16W
0040	0 700 007 50	,	EPT:TR700		/TR/TOUE)	D044	1 21/ 20/ 01	•	XCEPT:TR700	U/TR/000E	/1R/100E
Q849	8-729-037-53	TRANSISTOR 2			/TD7100F\	R844	1-216-296-91	SHORT 0	11/	0.500/	1/1/\\
0050	0 700 007 50		EPT:TR700		/TR/TUUE)	R845	1-216-847-11				1/16W
Q850	8-729-037-52	TRANSISTOR 2		` ,	/TD7100E\	D0/14	1-216-296-91		XCEPT:TR700	U/ I R / UUUE	/1K/100E
<b>∆</b> Q851	8-729-046-77	TRANSISTOR S	EPT:TR700		/TR/TOUE)	R846	1-210-290-91	SHURI U			
Q852		TRANSISTOR 3		ı		R847	1-216-296-91	SHORT 0			
Q032	0-729-017-01	TRANSISTOR 2	301301-11			R849	1-216-837-11	METAL CHIP	22K	5%	1/16W
Q853	8-729-037-53	TRANSISTOR 2	SΔ1832F_V	(CR(TDI 3)		1047	1-210-037-11		XCEPT:TR700		
Q854		TRANSISTOR 2		, ,		R850	1-216-857-11	METAL CHIP		5%	1/16W
Q855		TRANSISTOR 2		` ,		1.030	1-210-037-11		XCEPT:TR700		
Q856		TRANSISTOR 2				R852	1-216-851-11			0.5%	1/16W
Q932		TRANSISTOR R				11002	1 210 001 11		XCEPT:TR700		
4,02	0 /2 / 0 /2 2 /					R853	1-216-849-11	METAL CHIP		5%	1/16W
Q933	8-729-042-29	TRANSISTOR R	N1104F(TP	L3)					XCEPT:TR700		
Q934		TRANSISTOR 2						`			
						R854	1-216-849-11	RES, CHIP	47K	0.5%	1/16W
		< RESISTOR >						(E	XCEPT:TR700	0/TR7000E	/TR7100E
						R859	1-216-845-11	METAL CHIP	100K	5%	1/16W
R801	1-216-841-11	METAL CHIP	47K	5%	1/16W	R864	1-216-857-11	METAL CHIP		5%	1/16W
R802	1-216-893-11	,	82K	0.50%		R865	1-216-841-11			5%	1/16W
R803	1-216-833-11		10K	5%	1/16W	R866	1-216-837-11	METAL CHIP	22K	5%	1/16W
R804	1-216-837-11	METAL CHIP	22K	5%	1/16W	5010			00011	=0.	
R805	1-216-835-11	METAL CHIP	15K	5%	1/16W	R868	1-216-849-11			5%	1/16W
D00/	4 040 070 44	DEC OLUB	001/	0.500/	4/4/14/	D070	4.04/.045.44		XCEPT:TR700		
R806	1-218-879-11	RES,CHIP	22K	0.50%	1/16W	R870	1-216-845-11		100K RV315/TR700	5%	1/16W
R807	1-216-839-11	METAL CHIP	33K	5% 0.50%	1/16W	D070	1 01/ 057 11	`			
R808 R809	1-218-879-11	RES,CHIP METAL CHIP	22K 220	5%	1/16W 1/16W	R870	1-216-857-11	METAL CHIP	1M RV315/TR700	5% 0/TD7000E	1/16W
R810	1-218-813-11 1-216-837-11	METAL CHIP	22K	5% 5%	1/16W	R871	1-216-857-11			5%	1/16W
KOTO	1-210-037-11	WILTAL CITIF	ZZK	370	1/1000					5%	1/16W
R811	1-216-879-11	RES, CHIP	22K	0.50%	1/16W	R872	1-216-845-11	METAL CHIP	IUUN	J /0	1/1000
R812	1-218-901-11	RES, CHIP	180K	0.50%	1/16W	R873	1-216-841-11	METAL CHIP	47K	5%	1/16W
R813	1-216-901-11		470K	5%	1/16W	R874	1-216-849-11	METAL CHIP		5% 5%	1/16W
R814	1-218-879-11	RES,CHIP	22K	0.50%	1/16W	10/4	1-210-047-11		XCEPT:TR700		
R815	1-216-833-11		10K	5%	1/16W	R875	1-216-849-11	METAL CHIP		5%	1/16W
1013	1-210-033-11	WILTAL CITII	TOK	370	17 10 00	1073	1-210-047-11		XCEPT:TR700		
R816	1-216-879-11	RES, CHIP	22K	0.50%	1/16W	R876	1-216-849-11	•		5%	1/16W
R817	1-216-879-11	RES, CHIP	22K	0.50%	1/16W	1.070	. 210 047 11		XCEPT:TR700		
R818	1-218-813-11		220	5%	1/16W	R878	1-216-857-11	METAL CHIP		5%	1/16W
R819	1-218-887-11	RES,CHIP	47K	0.50%	1/16W				XCEPT:TR700		
R820	1-216-845-11		100K	5%	1/16W			(-			
					•						
	1-216-879-11	RES, CHIP	22K	0.50%	1/16W						
R821		RES, CHIP	10	5%	1/8W						
R821 R822	1-216-150-91	IXLO, CITII									
	1-216-150-91 1-216-837-11		22K	5%	1/16W						
R822			22K 22K								

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Ref. No.	Part No.	<u>Description</u>			<u>Remarks</u>	Ref. No.	Part No.	<u>Description</u>			<u>Remarks</u>
R879	1-216-837-11	METAL CHIP	22K	5%	1/16W	R916	1-216-864-11	METAL CHIP	0	5%	1/16W
R880	1-218-895-11	RES,CHIP	100K	0.50%	1/16W			(TRV	315/TR700	0/TR7000	E/TR7100E)
R881	1-218-877-11	RES,CHIP	18K	0.50%	1/16W	R917	1-216-864-11	METAL CHIP	0	5%	1/16W
R882	1-218-903-11	RES,CHIP	220K	0.50%	1/16W			(EXCEPT:TRV	315/TR700		
R883	1-216-841-11	METAL CHIP	47K	5%	1/16W	R918	1-216-849-11	•	220K	5%	1/16W
11000	1 210 011 11		PT:TR7000			11710	1 210 017 11				E/TR7100E)
		(LNOL		/ 11(/ 000L/	1117 1002)	R921	1-216-296-91	`	LI 1.11(700	0/111/000	L/ III TOOL)
R884	1-216-845-11	METAL CHIP	100K	5%	1/16W	R922	1-216-296-91				
11004	1-210-043-11		PT:TR7000			1(722	1-210-270-71	SHORT 0			
R885	1-216-845-11	METAL CHIP	100K	5%	1/16W	R923	1-216-296-91	SHORT 0			
11000	1-210-045-11		100K 315/TR7000			R924	1-216-849-11		220K	5%	1/16W
R887	1-216-849-11	METAL CHIP	220K	5%	1/16W	K724	1-210-049-11				E/TR7100E)
1007	1-210-047-11		220K EPT:TR7000			R925	1-216-829-11		4.7K	5%	1/16W
R888	1-216-845-11	METAL CHIP	100K	5%	1/16W	K925	1-210-029-11				E/TR7100E)
K000	1-210-040-11		PT:TR7000			R926	1-216-821-11	`	1K	5%	1/16W
R889	1 214 027 11	METAL CHIP	22K	5%	1/16W	R932	1-216-841-11		47K	5%	1/16W
K889	1-216-837-11		22K 315/TR7000			K932	1-210-841-11	IVIETAL CHIP	4/K	5%	1/1000
		(IRV3	15/1K/UUU	/ I K / UUUE	/IR/IUUE)	Doss	1 01/ 001 11	METAL CLUD	11/	E0/	1/1/\\/
Dooo	1 01/ 045 11	METAL OLUD	1001/	F0/	1/1////	R933	1-216-821-11		1K	5%	1/16W
R890	1-216-845-11	METAL CHIP	100K	5%	1/16W	R934	1-216-821-11		1K	5%	1/16W
R891	1-218-895-11	RES,CHIP	100K		1/16W	R935	1-216-821-11		1K	5%	1/16W
Door	4 040 000 44		PT:TR7000		-	R936	1-216-821-11		1K	5%	1/16W
R892	1-218-903-11	RES,CHIP	220K		1/16W	R937	1-216-821-11	METAL CHIP	1K	5%	1/16W
		`	PT:TR7000		,						
R893	1-216-835-11	METAL CHIP	15K	5%	1/16W	R938	1-216-821-11		1K	5%	1/16W
		•	PT:TR7000		-	R939	1-216-821-11		1K	5%	1/16W
R894	1-216-857-11	METAL CHIP	1M	5%	1/16W	R940	1-216-819-11		680	5%	1/16W
		(TRV3	315/TR7000	/TR7000E	/TR7100E)	R941	1-216-821-11		1K	5%	1/16W
						R942	1-216-821-11	METAL CHIP	1K	5%	1/16W
R895	1-216-837-11		22K	5%	1/16W						
R896	1-218-903-11		220K		1/16W	R943	1-216-029-00		150	5%	1/10W
5007		`	PT:TR7000		,	R945	1-217-671-11	METAL CHIP	1	5%	1/10W
R897	1-218-891-11	RES,CHIP	68K		1/16W			TDANCEODA	ED.		
R898	1 010 005 11	RES,CHIP	PT:TR7000		-			< TRANSFORM	EK >		
K090	1-218-895-11		100K 315/TR7000		1/16W /TD7100E\		1 420 545 21	TRANSFORMER	CONVEDI	ED	
R899	1-218-881-11	•	27K		1/16W	<u> </u>	1-429-303-21				E/TR7100E)
11077	1-210-001-11		27R 315/TR7000				1 /21 7/0 11	TRANSFORMER			
		(1117)	713/11(7000	/ TTC / GOOL	/TIC/TOOL)	2.1001	1 431 747 11	TIO WOLOTOWE			E/TR7100E)
R900	1-218-895-11	RES,CHIP	100K	0.50%	1/16W				(111700)	5/11(/000	E/TIC/TOOL)
R901	1-218-887-11	RES,CHIP	47K	0.50%	1/16W						
R902	1-218-875-11	RES,CHIP	15K	0.50%	1/16W			FP-249 BOARD	COMPLET	F (Not sur	oplied)
R903	1-216-845-11	METAL CHIP	100K	5%	1/16W			*****			.,,
		(EXCE	PT:TR7000	/TR7000E	/TR7100E)				(1	Ref.No.:20	000 Series)
R904	1-216-849-11		220K	5%	1/16W				,		,
			PT:TR7000	/TR7000E	/TR7100E)		1-658-214-11	FP-356 FLEXIBI	LE BOARD		
R905	1-218-901-11	RES,CHIP	180K	0.50%	1/16W		3-965-551-01	HOLDER (S), S	ENSOR		
		(EXCE	PT:TR7000	/TR7000E	/TR7100E)		3-965-552-01	HOLDER (T), SI	ENSOR		
R906	1-216-833-11	METAL CHIP	10K	5%	1/16W						
		(EXCE	PT:TR7000					< HOLE ELEME	NT >		
R907	1-218-903-11		220K		1/16W						
		`	PT:TR7000	/TR7000E	/TR7100E)	H001	8-719-033-37	ELEMENT, HAL	L HW-105C		
R908	1-216-841-11	METAL CHIP	47K	5%	1/16W	H002	8-719-033-37	ELEMENT, HAL	L HW-105C		
R910	1-216-833-11	METAL CHIP	10K	5%	1/16W						
								< TRANSISTOR	>		
R911	1-218-883-11		33K	0.50%	1/16W						
R912	1-218-879-11		22K	0.50%	1/16W	Q001		PHOTO TRANS			
R913	1-216-857-11		1M	5%	1/16W	Q002	8-729-907-25	PHOTO TRANS	ISTOR PT48	350F	
R914	1-216-811-11		150	5%	1/16W						
			PT:TR7000					< SWITCH >			
R915	1-218-911-11		470K		1/16W						
		(EXCE	PT:TR7000	/TR7000E	/TR7100E)	S001	1-692-614-11	SWITCH, PUSH			
						0000	4 670 467	OMUTAL THE	•		EC PROOF)
						S002	1-572-688-11	SWITCH, PUSH	(1 KEY)(C.	C.LOCK)	

Note:
The components identified by mark ∆ or dotted line with mark ∆ are critical for safety.
Replace only with part number specified.

#### Note:

Les composants identifiés par une marque ∆ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

## FP-355

## MA-354/355/357

Ref. No.	Part No.	<u>Description</u>			<u>Remarks</u>	Ref. No.	Part No.	<u>Description</u>			Remarl
	1-658-213-11	FP-355 FLEXIBLE				C350 C351	1-107-826-91 1-135-259-11	CERAMIC CHIP TANTAL. CHIP	0.1uF 10uF	10% 20%	16V 6.3V
			(Re	ef.No.:20	000 Series)			< CONNECTOR >			
		< DIODE >				CN300	1-774-635-21	CONNECTOR, FFO	C/FPC 10P		
D001	8-719-988-42	DIODE GL453				CN301 CN302	1-778-283-11		C/FPC 4P	SMD) 2P	ı
	Δ_7073_860_Δ	MA-354(I) BOAR	D COMPLE	TF		CN303 CN304	1-695-320-21	PIN, CONNECTOR CONNECTOR, FFO	R (1.5MM)(		
	A-7073-007-A	(TRV10	)3/TRV110/	TRV110E	/TRV110P)	CNSO4	1-777-333-21		5/11 6 221		
		******			000 Series)			< DIODE >			
	A-7073-920-A	MA-357(I) BOAR			E/TR7100E)	D300 D301		DIODE MA8082-( DIODE MA8082-(	. ,		
		******	`		[/TR/TOUE)	D301		DIODE MA111-(K	. ,		
	Δ_7073_025_Δ	MA-355(I) BOAR	`		000 Series)	D303 D304		DIODE 01ZA8.2(7 DIODE 01ZA8.2(7	,		
		0/TRV210E/TRV3	10/TRV310E	/TRV310	)P/TRV315)	D304	0-717-002-10	DIODE OTZAO.Z(I	II L3)		
		********			000 Series)	D305 D306		DIODE DCC3810 DIODE DCR2810			
			(1	(ci.ivoo	000 301103)	D308		DIODE TLSU1002	2(TPX1,SON	IY)	
		< CAPACITOR >				D309	8-719-073-01	DIODE MA111-(K	(8).S0	ŕ	
C300		CERAMIC CHIP	0.001uF	10%	50V			< FUSE >			
C301 C302		CERAMIC CHIP	0.001uF 0.001uF	10% 10%	50V 50V	<b> ▲</b> F300	1-533-874-11	FUSE, MICRO (20	00mA/24V)		
C303 C304		CERAMIC CHIP CERAMIC CHIP	0.001uF 220PF	10% 10%	50V 50V			< IC >			
C305 C306		CERAMIC CHIP	0.1uF 0.01uF	10% 10%	16V 25V	IC300 IC301	8-759-494-54 8-749-012-83	IC AN2900FH-EB			
C307		CERAMIC CHIP	100PF	5%	50V	10301	0 747 012 03	10 10 100 1			
C308	1-162-927-11	CERAMIC CHIP	100PF	5%	50V			< COIL >			
C309	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	1.000	4 444 757 44	INDUCTOR	400 11		
C210	1 125 250 11	TANITAL CLUD	10uF	200/	4 21/	L300	1-414-757-11 1-414-757-11		100uH 100uH		
C310 C311		TANTAL. CHIP CERAMIC CHIP	0.022uF	20% 10%	6.3V 25V	L301 L302	1-414-754-11		100uH 10uH		
C312		CERAMIC CHIP	0.022uF	10%	25V	L302	1 414 754 11	MDOOTOR	Touri		
C313	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V			< TRANSISTOR >	•		
C314	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V						
0045	4 4 4 0 0 0 0 0 4 4	0554440 0445		400/	0517	Q302		TRANSISTOR 2S		_CK	
C315 C316	1-162-970-11 1-162-964-11	CERAMIC CHIP	0.01uF 0.001uF	10% 10%	25V 50V	Q303	8-729-420-50	TRANSISTOR UN	15215-(1X)		
C317	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V 50V			< RESISTOR >			
C318	1-164-227-11		0.022uF	10%	25V			( NEOIOTOIC )			
C319	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V	R300	1-414-228-11	INDUCTOR CHIP	0UH		
						R301	1-414-228-11		•	•	
C320	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V	R302		INDUCTOR CHIP	OUH (Note	•	
C321	1-162-927-11		100PF	5%	50V	R303	1-216-835-11		15K	5%	1/16W
C322 C323	1-162-927-11 1-165-176-11	CERAMIC CHIP	100PF 0.047uF	5% 10%	50V 16V	R304	1-216-839-11	METAL CHIP	33K	5%	1/16W
C324		CERAMIC CHIP	0.047ur 0.1uF	10%	16V	R305	1-216-836-11	METAL CHIP	18K	5%	1/16W
0324	1 107 020 71	OLIVIIVIIO OIIII	o. rui	1070	101	R306	1-216-835-11		15K	5%	1/16W
C325	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V	R307	1-216-825-11		2.2K	5%	1/16W
C326	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V	R308	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
C327	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V	R309	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
C328	1-164-245-11	CERAMIC CHIP	0.015uF	10%	25V						
C329	1-164-172-11	CERAMIC CHIP	0.0056uF	10%	25V	R310	1-216-831-11		6.8K	5%	1/16W
0000	1 1/4 007 41	CEDANAIO OLUE	0.000 5	1007	251	R311	1-216-821-11		1K	5%	1/16W
C330 C331	1-164-227-11	CERAMIC CHIP	0.022uF	10% 10%	25V 25V	R312 R313	1-216-821-11		1K 6.8K	5% 5%	1/16W 1/16W
C331	1-164-172-11 1-164-227-11	CERAMIC CHIP	0.0056uF 0.022uF	10%	25V 25V	R313	1-216-831-11 1-216-829-11		6.8K 4.7K	5% 5%	1/16W
C343	1-104-227-11	CERAMIC CHIP	0.022ur 1uF	10/0	10V	11314	1-210-027-11	WILIAL GITT	T. / IX	J /0	1/10/1
C344		CERAMIC CHIP	1uF		10V						
C345	1-164-156-11	CERAMIC CHIP	0.1uF		25V	1 1		nounted to the lo	cation wh	ere R30	1, R30
C346	1-165-128-11	CERAMIC CHIP	0.22uF		16V		are printed.				
C347	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	Г	Nata	1.	lata.		
	1-107-686-11	TANTAL. CHIP	4.7uF	20%	16V		Note: The components		lote: .es compos	anta idar	atifiáa na
C348 C349		CERAMIC CHIP	0.1uF	10%	16V						

 $\triangle$  are critical for safety. Replace only with part number

specified.

pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

R316	Ref. No.	Part No.	Description			<u>Remarks</u>	Ref. No.	Part No.	Description			<u>Remarks</u>
R316   1-216-831-11   METAL CHIP   6.8K   5%   1716W   C5519   1-104-851-11   TATAL CHIP   10%   10V   C5529   1-104-851-11   TATAL CHIP   10%   10V   C5529   1-104-851-11   TATAL CHIP   10K   5%   1716W   C5520   1-107-86-91   CERANIC CHIP   0.1 uf   10%   10V   C5520   1-107-86-91   CERANIC CHIP   0.3 uf   20%   10V   C5520   1-107-86-91   CERANIC CHIP   0.3 uf   20%   10V   C5520   1-107-86-91   CERANIC CHIP   0.3 uf   20%   10V   C5520   1-107-86-91   TATAL CHIP   3.0 uf   20%   20%   C5520   1-107-86-91   TATAL CHIP   3.0 uf   20%   20%   C5520   1-107-86-91   TATAL CHIP   3.0 uf	R315	1-216-833-11	METAL CHIP	10K	5%	1/16W	C5517	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
National   1-216-832-11   METAL CHIP   10K   5%   170W   1-216-829-11   METAL CHIP   10K   5%   170W   1-216-829-11   METAL CHIP   10K   5%   170W   1-216-829-11   METAL CHIP   3K   5%   170W   1-216-829-11   METAL CHIP   3K   5%   170W   1-216-83-11   METAL CHIP   3K   5%   170W   1-216-83-11   METAL CHIP   3K   5%   170W   1-216-83-11   METAL CHIP   3K   5%   170W   1-226-31   170K   1-226-31   METAL CHIP   3K   5%   170W   1-226-31   META												
R318												
R320 1-216-829-11 MITAL CHIP 10K 5% 17-6W 1221 1-216-839-11 MITAL CHIP 30K 5% 17-6W 1222 1-216-839-11 MITAL CHIP 30K 5% 17-6W 1233 1-216-839-11 MITAL CHIP 3												
R322   1-216-839-11   METAL CHIP   82K   5%   116W   R324   1-216-839-11   METAL CHIP   82K   5%   116W   R324   1-216-839-11   METAL CHIP   33K   5%   116W   R325   1-216-839-11   METAL CHIP   33K   5%   116W   R326   1-414-228-11   IMDUCTOR CHIP   01H (Noile)   R337   1-414-228-11   IMDUCTOR CHIP   01H (Noile)   R331   1-216-839-11   METAL CHIP   56K   5%   116W   C5603   1-107-826-91   CERAMIC CHIP   0.1U   10%   10%   25V   R332   1-216-839-11   METAL CHIP   56K   5%   116W   C5603   1-164-094-11   CERAMIC CHIP   0.1U   10%   10%   50V   R333   1-216-839-11   METAL CHIP   33K   5%   116W   C5603   1-162-926-11   CERAMIC CHIP   0.1U   10%   10%   50V   R334   1-216-839-11   METAL CHIP   33K   5%   116W   C5610   1-162-926-11   CERAMIC CHIP   0.1U   10%   10W   R334   1-216-839-11   METAL CHIP   0.5%   176W   R335   1-216-839-11   METAL CHIP   0.5%   176W   R335   1-216-839-11   METAL CHIP   0.5%   176W   R336   1-216-839-11   METAL CHIP   0.5%   176				` '	,	1/16W						
R322   1-216-839-11   METAL CHIP   82K   5%   116W   R324   1-216-839-11   METAL CHIP   82K   5%   116W   R324   1-216-839-11   METAL CHIP   33K   5%   116W   R325   1-216-839-11   METAL CHIP   33K   5%   116W   R326   1-414-228-11   IMDUCTOR CHIP   01H (Noile)   R337   1-414-228-11   IMDUCTOR CHIP   01H (Noile)   R331   1-216-839-11   METAL CHIP   56K   5%   116W   C5603   1-107-826-91   CERAMIC CHIP   0.1U   10%   10%   25V   R332   1-216-839-11   METAL CHIP   56K   5%   116W   C5603   1-164-094-11   CERAMIC CHIP   0.1U   10%   10%   50V   R333   1-216-839-11   METAL CHIP   33K   5%   116W   C5603   1-162-926-11   CERAMIC CHIP   0.1U   10%   10%   50V   R334   1-216-839-11   METAL CHIP   33K   5%   116W   C5610   1-162-926-11   CERAMIC CHIP   0.1U   10%   10W   R334   1-216-839-11   METAL CHIP   0.5%   176W   R335   1-216-839-11   METAL CHIP   0.5%   176W   R335   1-216-839-11   METAL CHIP   0.5%   176W   R336   1-216-839-11   METAL CHIP   0.5%   176	R320	1-216-833-11	METAL CHIP	10K	5%	1/16W	C5603	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
R323 1-216-83-911 METAL CHIP 8.X 5% 11/6W R324 1-216-839-11 METAL CHIP 9.3K 5% 11/6W R325 1-216-839-11 METAL CHIP 9.3K 5% 11/6W R326 1-141-228-11 INDUCTOR CHIP DUH Mote) R327 1-414-228-11 INDUCTOR CHIP DUH Mote) R327 1-414-228-11 INDUCTOR CHIP DUH Mote) R328 1-216-839-11 METAL CHIP 18K 5% 11/6W R329 1-216-839-11 METAL CHIP 9.5K 5% 11/6W R321 1-216-839-11 METAL CHIP 9.5K 5% 11/6W R323 1-216-839-11 METAL CHIP 9.5K 5% 11/6W R324 1-216-824-11 METAL CHIP 9.5K 5% 11/6W R325 1-216-841-1 METAL CHIP 9.5K 5% 11/6W R326 1-216-841-1 METAL CHIP 9.5K 5% 11/6W R327 1-216-824-11 METAL CHIP 9.5K 5% 11/6W R328 1-216-839-11 METAL CHIP 9.5K 5% 11/6W R329 1-216-839-11 METAL CHIP 9.5K 5% 11/6W R330 1-216-839-11 METAL CHIP 9.5K 5% 11/6W R331 1-216-839-11 METAL CHIP 9.5K 5% 11/6W R332 1-216-839-11 METAL CHIP 9.5K 5% 11/6W R332 1-216-839-11 METAL CHIP 9.5K 5% 11/6W R333 1-216-849-11 METAL CHIP 9.5K 5% 11/6W R334 1-216-849-11 METAL CHIP 9.5K 5% 11/6W R341 1-216-849-11 METAL CHIP 9.5							00000	1 110 001 11	OLIGINIO OIIII			
R324						171011	C5603	1-164-004-11	CERAMIC CHIP		•	,
R326						1/16W						
R325 1-216-839-11 METAL CHIP 0JK (Note) R336 1-414-228-11 INDUCTOR CHIP 0JK (Note) R337 1-216-830-11 METAL CHIP 5.6K 5% 1/16W R338 1-216-830-11 METAL CHIP 5.6K 5% 1/16W R338 1-216-830-11 METAL CHIP 33K 5% 1/16W R338 1-216-830-11 METAL CHIP 33K 5% 1/16W R338 1-216-830-11 METAL CHIP 33K 5% 1/16W R336 1-216-830-11 METAL CHIP 33K 5% 1/16W R336 1-216-830-11 METAL CHIP 33K 5% 1/16W R336 1-216-831-11 METAL CHIP 33K 5% 1/16W R336 1-216-831-11 METAL CHIP 33K 5% 1/16W R336 1-216-841-11 METAL CHIP 0 5% 1/16W R336 1-216-811-10 METAL CHIP 0 5% 1/16W R336 1-216-864-11 METAL CHIP 0 5% 1/16W R330 1-216-311-00 METAL CHIP 0 5% 1/16W R340 1-216-864-11 METAL CHIP 0 5% 1/16W R341 1-216-864-11 METAL CHIP 0 5% 1/16W R340 1-216-824-11 METAL CHIP 0 5% 1/16W R341 1-216-864-11 METAL CHIP 0 5% 1/16W R342 1-216-864-11 METAL CHIP 0 5% 1/16W R341 1-216-864-11 METAL CHIP 0 5% 1/16W R342 1-216-864-11 METAL CHIP 0 5% 1/16W R341 1-216-864-11 METAL CHIP 0 5% 1/16W R341 1-216-864-11 METAL CHIP 0 5% 1/16W R342 1-216-864-11 METAL CHIP 0 5% 1/16W R343 1-216-864-11 METAL CHIP 0 5% 1/16W R344 1-216-864-11 METAL CHIP 0 5% 1/16W R345 1-216-864-11 METAL									`			
R320							C5604	1-107-826-91				,
R337 1-216-839-11 MICHAL CHIP 5 6K 5% 1/16W R332 1-216-839-11 MICHAL CHIP 18K 5% 1/16W R333 1-216-839-11 MICHAL CHIP 38K 5% 1/16W R334 1-216-839-11 MICHAL CHIP 38K 5% 1/16W R335 1-216-839-11 MICHAL CHIP 0 5% 1/16W R335 1-216-839-11 MICHAL CHIP 0 5% 1/16W R336 1-216-839-11 MICHAL CHIP 0 5% 1/16W R336 1-216-839-11 MICHAL CHIP 0 5% 1/16W R338 1-216-839-11 MICHAL CHIP 0 5% 1/16W R338 1-216-831-10 MICHAL CHIP 0 5% 1/16W R338 1-216-830-11 MICHAL CHIP 0 5% 1/16W R338 1-216-310-00 MICHAL CHIP 0 5% 1/16W R339 1-216-302-00 MICHAL CHIP 0 5% 1/16W R340 1-216-824-11 MICHAL CHIP 0 5% 1/16W R340 1-216-832-11 MICHAL CHIP 0 1/16W 16W R340 1	R325	1-216-839-11	METAL CHIP	33K	5%	1/16W	C5605	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
R331 1-216-839-11 METAL CHIP 5-6K 5% 1/16W R332 1-216-839-11 METAL CHIP 10K 5% 50V R333 1-216-839-11 METAL CHIP 33K 5% 1/16W R334 1-216-839-11 METAL CHIP 33K 5% 1/16W R335 1-216-839-11 METAL CHIP 33K 5% 1/16W R336 1-216-830-11 METAL CHIP 0 5% 50V R338 1-216-830-11 METAL CHIP 0 5% 50V R338 1-216-830-11 METAL CHIP 0 5% 1/16W R338 1-216-830-10 METAL CHIP 0 5% 1/16W R338 1-216-830-11 METAL CHIP 0 5% 1/16W R339 1-216-830-11 METAL CHIP 0 5% 1/16W R330 1-216-820-11 METAL CHIP 0 5% 1/16W R330 1-216-820-11 METAL CHIP 0 5% 1/16W R340 1-216-820-11 METAL CHIP 0 5% 1/16W R341 1-216-820-11 METAL CHIP 0 5% 1/16W R340 1-216-820-11 METAL CHIP 0 5% 1/16W R341 1-216-820-11 METAL CHIP 0 5% 1/16W R340 1-216-820-11 METAL CHIP 0 5% 5% 1/16W R340 1-2	R326	1-414-228-11	INDUCTOR CHIP	OUH (Note)	)		C5607	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
R332   1.216-836-11   METAL CHIP   18K   5%   1/16W   R334   1.216-839-11   METAL CHIP   33K   5%   1/16W   R335   1.216-864-11   METAL CHIP   0   5%   1/16W   R336   1.216-864-11   METAL CHIP   0   5%   1/16W   R336   1.216-804-11   METAL CHIP   0   5%   1/16W   R336   1.216-302-00   METAL CHIP   0   5%   1/16W   R336   1.216-302-00   METAL CHIP   0   5%   1/16W   R336   1.216-864-11   METAL CHIP   0   5%   1/16W   R336   1.216-804-11   METAL CHIP   0   5%   1/16W   R336   1.216-802-01   METAL CHIP   0   5%   1/16W   R336   1.216-804-11   METAL CHIP   0   5%   1/16W   R334   1.216-804-11   METAL CHIP   0   5%   1/16W   R334   1.216-804-11   METAL CHIP   0   5%   1/16W   R334   1.216-804-11   METAL CHIP   0   1.8K   1.216-804-11   METAL CHIP	R327	1-414-228-11	INDUCTOR CHIP	OUH (Note)	)							
R333   1-216-839-11   METAL CHIP   33K   5%   1/16W   R336   1-216-839-11   METAL CHIP   33K   5%   1/16W   R336   1-216-839-11   METAL CHIP   0   5%   1/16W   R336   1-216-849-11   METAL CHIP   0   5%   1/16W   R336   1-216-849-11   METAL CHIP   0   5%   1/16W   R336   1-216-849-11   METAL CHIP   0   5%   1/16W   R338   1-216-311-00   METAL CHIP   0   5%   1/16W   R339   1-216-302-00   METAL CHIP   0.8   5%   1/16W   R339   1-216-302-00   METAL CHIP   0.8   5%   1/16W   R339   1-216-824-11   METAL CHIP   0.8   5%   1/16W   R341   1-216-864-11   METAL CHIP   0.1		1-216-830-11	METAL CHIP	5.6K	5%	1/16W		1-164-357-11			5%	50V
R333   1-216-89-11   METAL CHIP   33K   5%   1/16W   R335   1-216-89-11   METAL CHIP   0   5%   1/16W   R335   1-216-864-11   METAL CHIP   0   5%   1/16W   R336   1-216-804-11   METAL CHIP   0   5%   1/16W   R336   1-216-302-00   METAL CHIP   0   5%   1/16W   R336   1-216-302-00   METAL CHIP   0   5%   1/16W   R336   1-216-302-00   METAL CHIP   0   5%   1/16W   R340   1-216-302-00   METAL CHIP   1-8K   5%   1/16W   R340   1-216-302-10   METAL CHIP   1-8K   5%   1/16W   R340   1-216-302-10   METAL CHIP   1-8K   5%   1/16W   R341   1-216-302-10   METAL CHIP   0   5%   1/16W   C5620   1-107-826-91   CERAMIC CHIP   0.1uF   10%   16V   C5621   1-108-80-11   CERAMIC CHIP   0.1uF   10%   16V   C5622   1-107-826-91   CERAMIC CHIP   0.1uF   10%   16V   C5623   1-107-826-91   CERAMIC CHIP   0.1uF   10%   16V   C5625   1-107-826-91   CERAMIC CHIP   0.00330F   10%   C5625   1-107-826-91   CERAMIC CHIP   0.00330F   10%   C5625   1-107-826-91   CERAMIC CHIP   0.00330F   10%   C5626   1-107-826-91   CERAMIC CHIP   0.00330F   10%   C5626   1-107-826-91   CERAMIC CHIP   0.00330F   10%   C5627   1-107-826-91	R332	1-216-836-11	METAL CHIP	18K	5%	1/16W						
R334 1-216-89-11 METAL CHIP 0 5% 1/16W R335 1-216-84-11 METAL CHIP 0 0 5% 1/16W R336 1-216-311-00 METAL CHIP 0 0 5% 1/16W R338 1-216-311-00 METAL CHIP 2.7 5% 1/10W R339 1-216-302-00 METAL CHIP 2.7 5% 1/10W R340 1-216-89-211 METAL CHIP 1 8K 5% 1/16W R341 1-216-894-11 METAL CHIP 0 0 0 5% 1/16W R341 1-216-894-11 METAL CHIP 0 0 0 5% 1/16W R341 1-216-894-11 METAL CHIP 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0												
R335 1-216-864-11 METAL CHIP 0 5% 1/16W R336 1-216-311-00 METAL CHIP 0 5% 1/16W R338 1-216-311-00 METAL CHIP 0 6.8 5% 1/16W R339 1-216-302-00 METAL CHIP 1 8K 5% 1/16W R340 1-216-824-11 METAL CHIP 1 8K 5% 1/16W R341 1-216-864-11 METAL CHIP 1 8K 5% 1/16W R341 1-216-864-11 METAL CHIP 0 5% 1/16W R341 1-216-864-11 METAL CHIP 1 8K 5% 1/16W R341 1-216-864-11 METAL CHIP 0 15K 5% 1/16W R341 1-216-864-11 METAL CHIP 1 8K 5% 1/16W R341 1-216-864-11 METAL CHIP 1 8K 5% 1/16W R341 1-216-864-11 METAL CHIP 1 8K 5% 1/16W R341 1-216-864-11 METAL CHIP 1 18K 5% 1/16W R341 1-216-864-11 METAL CHIP 1 15W 16W R341 1-216-864-11 METAL CHIP 1 15W												
R336   1-216-864-11   METAL CHIP   0.8   5%   1/16W   R338   1-216-302-00   METAL CHIP   6.8   5%   1/16W   R339   1-216-302-00   METAL CHIP   2.7   5%   1/16W   R339   1-216-302-00   METAL CHIP   1.8K   5%   1/16W   R341   1-216-864-11   METAL CHIP   0.5   5%   1/16W   R341   1-216-864-11   METAL CHIP   0.5   5%   1/16W   C5622   1-135-177-21   TANTATL CHIP   1.9K   16W   C7622   1-135-177-21   TANTATL CHIP   1.9K   16W   C7622   1-135-177-21   TANTATL CHIP   1.9K   16W   C7622   1-107-882-91   CERAMIC CHIP   0.10F   10%   16W   C7622   1-107-886-11   TANTAL CHIP   1.9K   10W   C7622   1-107-886-11   TANTAL CHIP   1.9K   10W   C7622   1-107-886-11   TANTAL CHIP   1.9K   50W   C7622   1-107-826-91   CERAMIC CHIP   0.10F   10%   16W   C7622   1-107-826-91   CERAMIC CHIP   0.10F   10%   16W   C7622   1-107-886-11   TANTAL CHIP   1.9K   50W   C7622   1-107-826-91   CERAMIC CHIP   0.10F   10%   16W   C7622   1-107-826-91   CERAMIC CHIP   0.10F   10%   10W   C7622   1-107-826-91   CERAMIC C							C5618	1-113-994-11				
R338   1-216-311-00   METAL CHIP   0.8   5%   1/10W   R339   1-216-302-00   METAL CHIP   2.7   5%   1/10W   R340   1-216-324-11   METAL CHIP   1.8K   5%   1/16W   R341   1-216-324-11   METAL CHIP   1.8K   2.0%   20V   C5620   1-107-826-91   CERAMIC CHIP   0.1UF   10%   16W   C5622   1-107-826-91   CERAMIC CHIP   0.1UF   10%   16W   C5624   1-107-826-91   CERAMIC CHIP   0.1UF   10%   16W   C5624   1-107-826-91   CERAMIC CHIP   0.1UF   10%   16W   C5624   1-107-826-91   CERAMIC CHIP   0.1UF   10%   16W   CFV   C5704   1-164-901-11   CERAMIC CHIP   0.1UF   10%   16W   CFV   C5704   1-164-901-11   CERAMIC CHIP   0.1UF   10%   16W   CFV   C5704   1-162-901-11   CERAMIC CHIP   0.1UF   10%   16W   CFV   C5505   1-162-970-11   CERAMIC CHIP   0.1UF   10%   16W   CFV   C5505   1-162-970-11   CERAMIC CHIP   0.1UF   10%   16W   CFV   C5505   1-162-970-11   CERAMIC CHIP   0.1UF   10%   10W   25W   C5505   1-162-970-11   CERAMIC CHIP   0.1UF   10%   25W   C5505   1-162-970-11   CERAMIC CHIP   0.1UF   10%   25W   C5505   1-162-970-11   CERAMIC CHIP   0.1UF   10%   10W   C5601   1-69-362-11   CONNECTOR, FICEPIC (CIF) 24P   C5505   1-162-970-11   CERAMIC CHIP   0.1UF   10%   10W   C5605   1-69-362-11   CONNECTOR, FICEPIC (CIF) 24P												
C5610   1-162-970-11   CERAMIC CHIP   0.1 uF   10%   25V   C170-282-11   CERAMIC CHIP   0.1 uF   10%   25V   C170-282-11   CERAMIC CHIP   0.1 uF   10%   16V   C150-20   1-107-826-91   CERAMIC CHIP   0.1 uF   0.0 u				-					TRV21	0/TRV210E	/TRV310I	-/TRV315)
R340 1-216-320-200 METAL CHIP 2.7 5% 1/16W R340 1-216-824-11 METAL CHIP 0 5% 1/16W R341 1-216-864-11 METAL CHIP 0 5% 1/16W EXCEPT: R7000/TR7000E/TR7100E MODEL  A-7073-871-A PD-105(SHN) BOARD, COMPLETE (TRV10)TRV110/TRV110E-E.HK.AUS.CN_JE/TRV110P)  ***********************************	K338	1-216-311-00	METAL CHIP	6.8	5%	1/10W	05/10	1 1/0 070 11	OFDANAIO OLUD	0.015	100/	251/
R340	D220	1 21/ 202 00	METAL CLUD	2.7	E0/	1/10///	C5619	1-162-970-11				
R341   1-216-864-11   METAL CHIP   0   5   5   1/16W   C5620   1-107-826-91   CERAMIC CHIP   0.1   10%   16W   20W   2												
EXCEPT:TR7000/TR7000E/TR7100E MODEL  A-7073-971-A PD-105(SHN) BOARD, COMPLETE (TRV103/TRV110/TRV10E/HK,AUS.CN_JE/TRV110P)							CE420	1 107 024 01				
EXCEPT:TR7000/TR7000E/TR7100E MODEL  A-7073-871-A PD-105(SIN) BOARD, COMPLETE (TRV102/3/TRV110/TRV110/TRV110/TRV110E/EHKAUS, CNJE/TRV110P)  ***********************************	K341	1-210-004-11	WETAL CHIP	U	376	1/1000						
A-7073-871-A PD-105(SHN) BOARD, COMPLETE (TRV103/TRV110/TRV110E,E.HK.AUS,CN_JE/TRV110P) ************************************	EVCEDTIT	D7000/TD7000	E/TD7100E MOD	)EI								
A-7073-871-A PD-105(SHN) BOARD, COMPLETE (TRY103/TRY110/TR	EXCEPT.1	K/000/TK/000	E/TR/TOOL WIOL	/LL								
(TRV103/TRV110/TRV110EE,HK,AUS,CN,JE/TRV110P)  ***********************************		Δ-7073-871-Δ	PD-105(SHN) RO	ARD COMP	LETE		03023	1 107 020 71	OLIVIIVIIO OIIII			
### A-7073-927-A PD-106(SH) BOARD, COMPLETE (TRV203/TRV210E/TRV215E/TRV315) #### A-7073-942-A PD-105(SH) BOARD, COMPLETE (TRV110E-XEP-UK,EE, INE, RU) #### A-7073-942-A PD-105(SH) BOARD, COMPLETE (TRV110E-XEP-UK,EE, INE, RU) #### ### ### A-7073-942-A PD-105(SH) BOARD, COMPLETE (TRV110E-XEP-UK,EE, INE, RU) ### ### ### ### ### ### ### ### ### ##			, ,			/TRV110P)				`	(110010)	11(10101)
C5503   1-107-826-91   CERAMIC CHIP   0.101   10%		(				,	C5624	1-107-688-11	TANTAL. CHIP	1.5uF	20%	10V
#####################################		A-7073-927-A	PD-106(SH) BOAI	RD, COMPLI	ETE		C5625	1-107-688-11	TANTAL. CHIP	1.5uF	20%	10V
A-7073-942-A PD-105(SHP) BOARD, COMPLETE (TRV110E:AEP,UK,EE,NE,RU)  ***********************************			TRV2	03/TRV210/	TRV210	E/TRV315)	C5633	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
CTRV110E:AEP,UK,EE,NE,RU    A-7073-957-A   PD-106(CAN) BOARD, COMPLETE     A-7073-957-A   PD-106(CAN) BOARD, COMPLETE			********	*****	***			1-113-682-11	TANTAL. CHIP	33uF	20%	10V
#####################################		A-7073-942-A	PD-105(SHP) BOA			EE NE DUN	C5702	1-164-346-11	CERAMIC CHIP	1uF		16V
A-7073-957-A PD-106(CAN) BOARD, COMPLETE (TRV310P)  A-7073-975-A PD-106(SHP) BOARD, COMPLETE (TRV310E)  A-7073-975-A PD-106(SHP) DO.1uF 10% 16V  C5501 1-107-826-91 CERAMIC CHIP 0.1uF 10% 16V  C5502 1-107-826-91 CERAMIC CHIP 0.1uF 10% 25V  C5503 1-162-970-11 CERAMIC CHIP 0.1uF 10% 25V  C5504 1-162-970-11 CERAMIC CHIP 0.1uF 10% 25V  C5505 1-162-970-11 CERAMIC CHIP 0.1uF 10% 25V  C5506 1-162-970-11 CERAMIC CHIP 0.1uF 10% 25V  C5507 1-104-851-11 TANTAL CHIP 10uF 20% 10V  C5508 1-107-826-91 CERAMIC CHIP 0.1uF 10% 10V  C5509 1-135-180-21 TANTALUM CHIP 0.1uF 10% 10V  C5510 1-104-851-11 TANTAL CHIP 10uF 20% 10V  C5511 1-104-851-11 TANTAL CHIP 0.1uF 10% 10V  C5512 1-104-851-11 TANTAL CHIP 0.1uF 10% 10V  C5513 1-107-826-91 CERAMIC CHIP 0.1uF 10% 10V  C5514 1-115-339-11 CERAMIC CHIP 0.1uF 10% 10V  C5515 1-115-339-11 CERAMIC CHIP 0.1uF 10% 10V  C5516 1-104-851-11 TANTAL CHIP 0.1uF 10% 10V  C5517 1-104-851-11 TANTAL CHIP 0.1uF 10% 10V  C5518 1-104-80-91 CERAMIC CHIP 0.1uF 10% 10V  C5700 1-107-826-91 CER			***	`		EE,NE,RU)	C5702	1 16/1 661 11	CEDAMIC CHID	0 010uE	10%	501/
######################################		A 7072 OE7 A										
#************************************		A-7073-937-A	PD-100(CAN) BU			/TD\/210D\						
A-7073-975-A PD-106(SHP) BOARD, COMPLETE (TRV310E)  ***********************************				,		TRV3TUP)	213 03 703	1-113-320-11				
**************************************		Δ-7073-975-Δ				2V310F)	∕\ C5705	1-113-521-11	,			,
C5706   1-162-970-11   CERAMIC CHIP   0.01uF   10%   25V		11 1015 115 11				(VOTOL)						
C5501   1-107-826-91   CERAMIC CHIP   0.1uF   10%   16V   C5502   1-107-826-91   CERAMIC CHIP   0.1uF   10%   16V   C5503   1-162-970-11   CERAMIC CHIP   0.01uF   10%   25V   C5504   1-162-970-11   CERAMIC CHIP   0.01uF   10%   25V   C5505   1-162-970-11   CERAMIC CHIP   0.1uF   10%   25V   C5507   1-104-851-11   TANTAL CHIP   10uF   20%   10V   C5508   1-107-826-91   CERAMIC CHIP   0.1uF   10%   16V   C5509   1-135-180-21   TANTAL CHIP   10uF   20%   6.3V   C5513   1-107-826-91   CERAMIC CHIP   0.1uF   10%   10V   C5512   1-104-851-11   TANTAL CHIP   10uF   20%   10V   C5513   1-107-826-91   CERAMIC CHIP   0.1uF   10%   16V   C5514   1-115-339-11   CERAMIC CHIP   0.1uF   10%   50V   C5515   1-115-339-11   CERAMIC CHIP   0.1uF   10%   50V   C5515   1-115-339-11   CERAMIC CHIP   0.1uF   10%   50V   CF515   1-115-339-11   CERAMIC CHIP   0.1uF   10%   50V   CF500   0.1uF   0.1uF   10%   50V   CF500   0.1uF				(Re	ef.No.:10	000 Series)	,					,
C5501   1-107-826-91   CERAMIC CHIP   0.1uF   10%   16V   C5502   1-107-826-91   CERAMIC CHIP   0.1uF   10%   16V   C5503   1-162-970-11   CERAMIC CHIP   0.01uF   10%   25V   C5504   1-162-970-11   CERAMIC CHIP   0.01uF   10%   25V   C5505   1-162-970-11   CERAMIC CHIP   0.1uF   10%   25V   C5507   1-104-851-11   TANTAL CHIP   10uF   20%   10V   C5508   1-107-826-91   CERAMIC CHIP   0.1uF   10%   16V   C5509   1-135-180-21   TANTAL CHIP   10uF   20%   6.3V   C5513   1-107-826-91   CERAMIC CHIP   0.1uF   10%   10V   C5512   1-104-851-11   TANTAL CHIP   10uF   20%   10V   C5513   1-107-826-91   CERAMIC CHIP   0.1uF   10%   16V   C5514   1-115-339-11   CERAMIC CHIP   0.1uF   10%   50V   C5515   1-115-339-11   CERAMIC CHIP   0.1uF   10%   50V   C5515   1-115-339-11   CERAMIC CHIP   0.1uF   10%   50V   CF515   1-115-339-11   CERAMIC CHIP   0.1uF   10%   50V   CF500   0.1uF   0.1uF   10%   50V   CF500   0.1uF			< CADACITOD >				C5801	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
C5501 1-107-826-91 CERAMIC CHIP 0.1uF 10% 16V C5502 1-107-826-91 CERAMIC CHIP 0.1uF 10% 16V C5503 1-162-970-11 CERAMIC CHIP 0.01uF 10% 25V C5504 1-162-970-11 CERAMIC CHIP 0.01uF 10% 25V C5505 1-162-970-11 CERAMIC CHIP 0.01uF 10% 25V C5506 1-164-004-11 CERAMIC CHIP 0.1uF 10% 25V C5507 1-104-851-11 TANTAL. CHIP 10uF 20% 10V C5508 1-107-826-91 CERAMIC CHIP 0.1uF 10% 16V C5509 1-135-180-21 TANTALUM CHIP 3.3uF 20% 6.3V C5511 1-109-982-11 CERAMIC CHIP 10uF 20% 10V C5512 1-104-851-11 TANTAL. CHIP 10uF 20% 10V C5513 1-107-826-91 CERAMIC CHIP 0.1uF 10% 16V C5514 1-115-339-11 CERAMIC CHIP 0.1uF 10% 16V C5515 1-115-339-11 CERAMIC CHIP 0.1uF 10% 50V C5515 1-115-339-11 CERAMIC CHIP 0.1uF 10% 50V			< CAPACITOR >				03001	1-107-020-71				
C5502   1-107-826-91   CERAMIC CHIP   0.1uF   10%   16V   C5503   1-162-970-11   CERAMIC CHIP   0.01uF   10%   25V   C5504   1-162-970-11   CERAMIC CHIP   0.01uF   10%   25V   C5505   1-162-970-11   CERAMIC CHIP   0.01uF   10%   25V   C5505   1-162-970-11   CERAMIC CHIP   0.01uF   10%   25V   C5506   1-164-004-11   CERAMIC CHIP   0.1uF   10%   25V   C5507   1-104-851-11   TANTAL. CHIP   10uF   20%   10V   C5508   1-107-826-91   CERAMIC CHIP   0.1uF   10%   16V   C5509   1-135-180-21   TANTALUM CHIP   3.3uF   20%   6.3V   C5511   1-109-982-11   CERAMIC CHIP   1uF   10%   10V   C5512   1-104-851-11   TANTAL. CHIP   10uF   20%   10V   C5513   1-107-826-91   CERAMIC CHIP   0.1uF   10%   16V   C5514   1-115-339-11   CERAMIC CHIP   0.1uF   10%   50V   C5515   1-115-339-11   CERAMIC CHIP   0.1uF   10%   50V   C5515   1-115-339-11   CERAMIC CHIP   0.1uF   10%   50V   C5515   1-115-339-11   CERAMIC CHIP   0.1uF   10%   50V   C5516   0.1uF	C5501	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V	C5900	1-107-826-91	,			,
C5503   1-162-970-11   CERAMIC CHIP   0.01uF   10%   25V   C5504   1-162-970-11   CERAMIC CHIP   0.01uF   10%   25V   C5505   1-162-970-11   CERAMIC CHIP   0.01uF   10%   25V   CN5505   1-162-970-11   CERAMIC CHIP   0.01uF   10%   25V   CN5501   1-573-984-11   CONNECTOR, BOARD TO BOARD 10P   CN5601   1-691-362-11   CONNECTOR, BOARD TO BOARD 10P   CN5601   1-691-362-11   CONNECTOR, FFC/FPC (ZIF) 24P   CN5701   1-764-709-11   CONNECTOR, FFC/FPC (ZIF) 24P   CN5701   1-764-709-11   CONNECTOR, FFC/FPC (ZIF) 26P   CN5801   1-107-826-91   CERAMIC CHIP   0.1uF   10%   10V   CN5801   1-764-532-21   CNNECTOR, FFC/FPC (ZIF) 26P   CN5801   1-764-532-21   CNNECTOR, FFC/FPC (ZIF) 26P   CN5802   1-785-627-21   PIN, CONNECTOR (PC BOARD) 10P   CN5802   1-785-627-								(TRV203/TRV21	0/TRV210E/TRV31	0/TRV310E/	TRV310F	P/TRV315)
C5504   1-162-970-11   CERAMIC CHIP   0.01uF   10%   25V   C5505   1-162-970-11   CERAMIC CHIP   0.01uF   10%   25V   CN5505   1-164-004-11   CERAMIC CHIP   0.1uF   10%   25V   CN5501   1-573-984-11   CONNECTOR, BOARD TO BOARD 10P   CN5601   1-691-362-11   CONNECTOR, FFC/FPC (ZIF) 24P   CN5701   1-764-709-11   CONNECTOR, FFC/FPC (ZIF) 24P   CN5701   1-764-709-11   CONNECTOR, FFC/FPC (LIF) 10P   CN5801   1-764-532-21   CONNECTOR, FFC/FPC (ZIF) 26P   CN5801   1-107-826-91   CERAMIC CHIP   1uF   10%   10V   CN5802   1-785-627-21   PIN, CONNECTOR (PC BOARD) 10P   CN5802   1-785-627-21   PIN, CONNECTOR (PC BOARD) 10P   CN5803   1-107-826-91   CERAMIC CHIP   0.1uF   10%   16V   CN5804   1-115-339-11   CERAMIC CHIP   0.1uF   10%   50V   CN5805   1-115-339-11   CNNECTOR, FFC/FPC (ZIF) 24P   CNNECT				0.01uF								
* CN5501 1-164-004-11 CERAMIC CHIP 0.1uF 10% 25V CN5507 1-104-851-11 TANTAL. CHIP 10uF 20% 10V C5508 1-107-826-91 CERAMIC CHIP 0.1uF 10% 16V C5511 1-109-982-11 CERAMIC CHIP 1uF 10% 10V C5512 1-104-851-11 TANTAL. CHIP 10uF 20% 10V C5513 1-107-826-91 CERAMIC CHIP 0.1uF 10% 16V C5514 1-115-339-11 CERAMIC CHIP 0.1uF 10% 16V C5515 1-115-339-11 CERAMIC CHIP 0.1uF 10% 50V C5515 1-115-339-11 CERAMIC CHIP 0.1uF 10% 50V ** CN5501 1-573-984-11 CONNECTOR, BOARD TO BOARD 10P CN5601 1-691-362-11 CONNECTOR, FFC/FPC (ZIF) 24P CN5701 1-764-709-11 CONNECTOR, FFC/FPC (LIF) 10P CN5801 1-764-532-21 CONNECTOR, FFC/FPC (ZIF) 26P (TRV103/TRV110/TRV110E/TRV110P) CN5802 1-785-627-21 PIN, CONNECTOR (PC BOARD) 10P (TRV103/TRV110/TRV110E/TRV110P)	C5504	1-162-970-11	CERAMIC CHIP	0.01uF	10%				< CONNECTOR >			
C5506 1-164-004-11 CERAMIC CHIP 0.1uF 10% 25V CN5601 1-691-362-11 CONNECTOR, FFC/FPC (ZIF) 24P C5507 1-104-851-11 TANTAL. CHIP 10uF 20% 10V C5508 1-107-826-91 CERAMIC CHIP 0.1uF 10% 16V C5511 1-109-982-11 CERAMIC CHIP 1uF 10% 10V C5512 1-104-851-11 TANTAL. CHIP 10uF 20% 10V C5513 1-107-826-91 CERAMIC CHIP 0.1uF 10% 16V C5514 1-115-339-11 CERAMIC CHIP 0.1uF 10% 50V C5515 1-115-339-11 CERAMIC CHIP 0.1uF 10% 50V	C5505	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V						
C5507 1-104-851-11 TANTAL. CHIP 10uF 20% 10V C5508 1-107-826-91 CERAMIC CHIP 0.1uF 10% 16V C5509 1-135-180-21 TANTALUM CHIP 3.3uF 20% 6.3V C5511 1-109-982-11 CERAMIC CHIP 1uF 10% 10V C5512 1-104-851-11 TANTAL. CHIP 10uF 20% 10V C5513 1-107-826-91 CERAMIC CHIP 0.1uF 10% 16V C5514 1-115-339-11 CERAMIC CHIP 0.1uF 10% 50V C5515 1-115-339-11 CERAMIC CHIP 0.1uF 10% 50V												
C5508 1-107-826-91 CERAMIC CHIP 0.1uF 10% 16V C5509 1-135-180-21 TANTALUM CHIP 3.3uF 20% 6.3V (TRV103/TRV110/TRV110E/TRV110P) C5511 1-109-982-11 CERAMIC CHIP 1uF 10% 10V C5512 1-104-851-11 TANTAL. CHIP 10uF 20% 10V C5513 1-107-826-91 CERAMIC CHIP 0.1uF 10% 16V C5514 1-115-339-11 CERAMIC CHIP 0.1uF 10% 50V C5515 1-115-339-11 CERAMIC CHIP 0.1uF 10% 50V	C5506			0.1uF	10%					` '		
C5509 1-135-180-21 TANTALUM CHIP 3.3uF 20% 6.3V (TRV103/TRV110/TRV110P) C5511 1-109-982-11 CERAMIC CHIP 1uF 10% 10V (TRV103/TRV110/TRV110E/TRV110P) C5512 1-104-851-11 TANTAL. CHIP 10uF 20% 10V C5513 1-107-826-91 CERAMIC CHIP 0.1uF 10% 16V C5514 1-115-339-11 CERAMIC CHIP 0.1uF 10% 50V C5515 1-115-339-11 CERAMIC CHIP 0.1uF 10% 50V	C5507			10uF		10V						
C5511 1-109-982-11 CERAMIC CHIP 1uF 10% 10V CN5802 1-785-627-21 PIN, CONNECTOR (PC BOARD) 10P (TRV103/TRV110/TRV110E/TRV110P)  C5512 1-104-851-11 TANTAL. CHIP 10uF 20% 10V  C5513 1-107-826-91 CERAMIC CHIP 0.1uF 10% 16V  C5514 1-115-339-11 CERAMIC CHIP 0.1uF 10% 50V  C5515 1-115-339-11 CERAMIC CHIP 0.1uF 10% 50V							CN5801	1-764-532-21		. ,		TD\ /< 10='
(TRV103/TRV110/TRV110E/TRV110P)  C5512 1-104-851-11 TANTAL. CHIP 10uF 20% 10V  C5513 1-107-826-91 CERAMIC CHIP 0.1uF 10% 16V  C5514 1-115-339-11 CERAMIC CHIP 0.1uF 10% 50V  C5515 1-115-339-11 CERAMIC CHIP 0.1uF 10% 50V							01/5000		,			TRV110P)
C5512 1-104-851-11 TANTAL. CHIP 10uF 20% 10V C5513 1-107-826-91 CERAMIC CHIP 0.1uF 10% 16V C5514 1-115-339-11 CERAMIC CHIP 0.1uF 10% 50V C5515 1-115-339-11 CERAMIC CHIP 0.1uF 10% 50V	C5511	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	CN5802	1-785-627-21		•	•	TRV/110P\
C5513 1-107-826-91 CERAMIC CHIP 0.1uF 10% 16V C5514 1-115-339-11 CERAMIC CHIP 0.1uF 10% 50V C5515 1-115-339-11 CERAMIC CHIP 0.1uF 10% 50V	C5512	1-104-851-11	TANTAL, CHIP	10uF	20%	10V			(11010)	O, 110/1	IXVIIOL/	
C5514 1-115-339-11 CERAMIC CHIP 0.1uF 10% 50V C5515 1-115-339-11 CERAMIC CHIP 0.1uF 10% 50V												
C5515 1-115-339-11 CERAMIC CHIP 0.1uF 10% 50V												
·												

Note: Inductors are mounted to the location where R318, R322, R326, R327 are printed.

#### Note:

The components identified by mark riangle or dotted line with mark  $\triangle$  are critical for safety. Replace only with part number specified.

#### Note:

Les composants identifiés par une marque ∆ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

# PD-105/106

Ref. No.	Part No.	Description		<u>Remarks</u>	Ref. No.	Part No.	<u>Description</u>			<u>Remarks</u>
CN5803	1-778-508-21	PIN, CONNECTOR	(PC BOARD) 6P				< TRANSISTOR	>		
			3/TRV110/TRV110E	(/TRV110P)						
CN5804	1-778-509-21				Q5501		TRANSISTOR 2		. ,	
		,	3/TRV110/TRV110E	(/TRV110P)	Q5601		TRANSISTOR R			
CN5805	1-691-344-11	CONNECTOR, FFC		(TD) (110D)	Q5602		TRANSISTOR R	`	,	
CNEOOO	1 705 607 01	PIN, CONNECTOR	3/TRV110/TRV110E	/TRVTTUP)	Q5605 Q5606		TRANSISTOR 2 TRANSISTOR 2			
			0/TRV310E/TRV310	)P/TRV(315)	23000	0-729-037-33	TRANSISTOR 2	3H103ZI-1	/GK(IFLS)	•
		PIN, CONNECTOR		,,,,,,,,,,	Q5607	8-729-037-52	TRANSISTOR 2	SC4738F-Y	/GR(TPL3)	)
			0/TRV310E/TRV310	)P/TRV315)	Q5608		TRANSISTOR 2		. ,	
					Q5701		TRANSISTOR F			
		PIN, CONNECTOR			Q5702	8-729-042-58	TRANSISTOR U	IN9111J-(K	8).SO	
	`		0/TRV310E/TRV310	)P/TRV315)			DECICTOR			
		CONNECTOR, FFC	7,FPC 6P 0/TRV310E/TRV310	)D/TD\/315)			< RESISTOR >			
		CONNECTOR, FFC		<i>n /</i> 11(V313)	R5501	1-216-840-11	METAL CHIP	39K	5%	1/16W
			0/TRV310E/TRV310	)P/TRV315)	R5505	1-216-841-11		47K	5%	1/16W
				,	R5508	1-218-883-11	RES,CHIP	33K	0.50%	1/16W
		< DIODE >						(EXCE	PT:TRV310	/TRV310P)
					R5508	1-218-885-11	RES,CHIP	39K		1/16W
D5604		,	TRV310/TRV310P)							/TRV310P)
D5604			EXCEPT:TRV310/TR	2V310P)	R5509	1-218-875-11	RES,CHIP	15K	0.50%	1/16W
D5605		DIODE 1T369-01- DIODE PG1101H-			DEE13	1 21/ 027 11	METAL CLUD	22K	5%	1/16W
D5703	8-719-038-80		1K 3/TRV110/TRV110E	/TD\/110D\	R5512 R5513	1-216-837-11 1-216-834-11		12K	5% 5%	1/16W
<b>△</b> D5704	8-719-073-01	,		/IRVITOP)	R5516	1-216-837-11		22K	5%	1/16W
211 D3 7 04	0-717-073-01	DIODE WATTE	0).30		R5517	1-216-835-11		15K	5%	1/16W
		< IC >			R5518	1-216-839-11		33K	5%	1/16W
IC5501	8-759-364-05	IC M62376GP-65	AD		R5520	1-216-850-11	METAL CHIP	270K	5%	1/16W
	8-759-539-27				R5521	1-216-834-11	METAL CHIP	12K	5%	1/16W
		IC LZ9GH174 (TR	V310E)		R5522	1-216-840-11	METAL CHIP	39K	5%	1/16W
IC5601	8-759-491-15		00/75) 104 0/75) 104	NE (TD) (04 E)	DEFOO	4 04 / 040 44	METAL OLUB			)/TRV310P)
ICE ( 0.1	0.750.405.00	,	03/TRV210/TRV210	DE/TRV315)	R5522	1-216-843-11	METAL CHIP	68K	5%	1/16W
105601	8-759-495-00		3/TRV110/TRV110E	/TD\/110D\	R5528	1-218-895-11	DEC CHID	100K		)/TRV310P) 1/16W
		(11010	5/11(110/11(110)	711(11101)	10320	1-210-073-11	RES,OTH	TOOK	0.5070	171000
IC5601	8-759-530-20	IC CM7017L3-T4	(TRV310/TRV310P)	)	R5531	1-216-821-11	METAL CHIP	1K	5%	1/16W
		IC NJM062V(TE2)			R5532	1-216-841-11	METAL CHIP	47K	5%	1/16W
IC5701	8-759-075-70	IC TA75S393F-TE	85R		R5537	1-216-821-11	METAL CHIP	1K	5%	1/16W
IC5801	8-759-573-02	IC BU9735K-E2				`	03/TRV110/TRV			,
105000		,	3/TRV110/TRV110E	(/TRV110P)	R5537	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
		IC BU9729K-E2	0/TD\/210E/TD\/210	ND/TDV/21E\	DEE27	1 21/ 020 11	METAL CLUD			,EE,NE,RU)
(	(187203/18721	U/TRV2TUE/TRV3T	0/TRV310E/TRV310	)P/TRV315)	R5537	1-216-829-11		4.7K /203/TRV2	5% 10/TRV/210	1/16W )E/TRV315)
							(110)	1203/11(12	10/11(1210	L/TICV3T3)
		< COIL >			R5537	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
										(TRV310E)
L5501	1-414-754-11	INDUCTOR	10uH		R5537	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
L5502	1-414-754-11	INDUCTOR	10uH						•	/TRV310P)
L5503			10uH	\ (04.0F)	R5541	1-216-825-11		2.2K	5%	1/16W
L5601		INDUCTOR	10uH (TRV310/TR	V310P)	R5542	1-216-823-11		1.5K	5%	1/16W
L5603	1-414-754-11	INDUCTOR	10uH		R5544	1-216-821-11	METAL CHIP	1K	5%	1/16W
L5604	1-414-754-11	INDUCTOR	10uH		R5602	1-216-864-11	METAL CHIP	0	5%	1/16W
L5605		INDUCTOR	10uH		1.0002	. 2.0 00		ŭ		)/TRV310P)
			(TRV310/TRV310E	(/TRV310P)	R5603	1-216-864-11	METAL CHIP	0	5%	1/16W
L5605	1-412-953-11	INDUCTOR	15uH	,	R5604	1-216-864-11		0	5%	1/16W
		,	03/TRV210/TRV210	E/TRV315)	R5606	1-216-864-11	METAL CHIP	0	5%	1/16W
L5605	1-412-956-21		27uH							/TRV310P)
15/05			0E:E,HK,AUS,CN,JE	:/TRV110P)	R5607	1-216-864-11	METAL CHIP	0	5%	1/16W
L5605	1-412-952-11	INDUCTOR	12uH (TDV/110E-AEDLIK	EE NE DIIV				(EXCE	-1:1KV310	)/TRV310P)
			(TRV110E:AEP,UK	.,ce,NE,KU)						
L5701	1-409-536-41	INDUCTOR	150uH							

Note:
The components identified by mark ∆ or dotted line with mark ∆ are critical for safety.
Replace only with part number specified.

Note:

Les composants identifiés par une marque ∆ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

# PD-105/106

Ref. No.	Part No.	Description			Remarks	Ref. No.	Part No.	Description	Remarks
R5608	1-216-864-11		0	5%	1/16W	R5651	1-218-883-11	•	33K 0.50% 1/16W
13000	1-210-004-11	WEIAL CIIII			TRV310P)	13031	1-210-003-11	RES,CIIII	(EXCEPT:TRV310/TRV310P)
R5610	1-216-842-11	METAL CHIP	56K	5% (TRV310/	1/16W TRV310P)	R5652	1-216-864-11	METAL CHIP	0 5% 1/16W (TRV310/TRV310P)
R5610	1-216-845-11	METAL CHIP	100K (EXCEP	5% T:TRV310/	1/16W TRV310P)	R5652	1-218-879-11	RES,CHIP	22K 0.50% 1/16W (EXCEPT:TRV310/TRV310P)
R5612 R5613	1-216-833-11 1-216-841-11		10K 47K	5% 5%	1/16W 1/16W	R5653	1-218-883-11	RES,CHIP	33K 0.50% 1/16W (EXCEPT:TRV310/TRV310P)
						R5654	1-218-879-11	RES,CHIP	22K 0.50% 1/16W
R5615	1-216-844-11	METAL CHIP	82K	5% (TRV310/	1/16W TRV310P)				(EXCEPT:TRV310/TRV310P)
R5615	1-216-846-11		120K 203/TRV21	5% 0/TRV210	1/16W E/TRV315)	R5657	1-216-864-11	METAL CHIP	0 5% 1/16W (EXCEPT:TRV310/TRV310P)
R5615	1-216-847-11 (TRV1	METAL CHIP 03/TRV110/TRV11	150K I0E:E,HK,A	5% NUS,CN,JE/	1/16W TRV110P)	R5658	1-216-864-11	METAL CHIP	0 5% 1/16W (EXCEPT:TRV310/TRV310P)
R5615	1-216-848-11	METAL CHIP	180K	5%	1/16W (TRV310E)	R5659	1-216-864-11	METAL CHIP	0 5% 1/16W (EXCEPT:TRV310/TRV310P)
R5617	1-216-833-11		10K	5%	1/16W	R5660	1-216-864-11	METAL CHIP	0 5% 1/16W (EXCEPT:TRV310/TRV310P)
R5621	1-216-857-11	METAL CHIP	1M	5%	1/16W	R5661	1-216-864-11	METAL CHIP	0 5% 1/16W
R5622	1-216-844-11	METAL CHIP	(EXCEP 82K	T:TRV310/ 5%	TRV310P) 1/16W				(EXCEPT:TRV310/TRV310P)
				(TRV310/	TRV310P)	R5663	1-216-864-11	METAL CHIP	0 5% 1/16W
R5622	1-216-845-11	METAL CHIP	100K (FXCFP	5% T:TRV310/	1/16W (TRV310P)	R5664	1-216-864-11	METAL CHIP	(TRV310/TRV310P) 0 5% 1/16W
R5623	1-216-845-11		100K	5%	1/16W				(TRV310/TRV310P)
R5624	1-216-841-11	METAL CHIP	47K	5%	1/16W	R5665	1-216-864-11	METAL CHIP	0 5% 1/16W (TRV310/TRV310P)
R5625	1-218-889-11	RES,CHIP	56K	0.50% (TRV310/	1/16W TRV310P)	R5666	1-216-864-11	METAL CHIP	0 5% 1/16W (TRV310/TRV310P)
R5625	1-218-891-11	•	68K	0.50%	1/16W	R5667	1-216-864-11	METAL CHIP	0 5% 1/16W
R5625	1-218-897-11	(TRV203/TRV21 RES,CHIP	120K		1/16W				(TRV310/TRV310P)
R5625	(TRV1 1-218-895-11	03/TRV110/TRV11	10E:E,HK,A 100K	US,CN,JE/ 0.50%		R5668	1-216-864-11	METAL CHIP	0 5% 1/16W (TRV310/TRV310P)
			(TRV110	E:AEP,UK,	EE,NE,RU)	R5669	1-216-864-11	METAL CHIP	0 5% 1/16W
R5627	1-218-893-11 (TRV2	RES,CHIP 03/TRV210/TRV21	82K 0E/TRV31		1/16W P/TRV315)	R5670	1-216-864-11	METAL CHIP	(EXCEPT:TRV310/TRV310P) 0 5% 1/16W
R5627	1-218-897-11	- / -	120K		1/16W	R5671	1-216-864-11	METAL CHIP	(EXCEPT:TRV310/TRV310P) 0 5% 1/16W
R5627	(TRV1 1-218-901-11	03/TRV110/TRV11 RES.CHIP	10E:E,HK,A 180K	US,CN,JE/ 0.50%		R5672	1-216-836-11	METAL CHIP	(EXCEPT:TRV310/TRV310P) 18K 5% 1/16W
		·	(TRV110	E:AEP,UK,	EE,NE,RU)	110072	1210 000 11	WEINE OIM	(TRV310/TRV310P)
R5627	1-218-903-11	RES,CHIP	220K		1/16W (TRV310E)	R5673	1-216-864-11	METAL CHIP	0 5% 1/16W
R5628	1-216-864-11	METAL CHIP	0	5%	1/16W				(TRV310/TRV310P)
R5630	1-216-821-11	METAL CHIP	1K	5%	1/16W	R5674	1-216-864-11	METAL CHIP	0 5% 1/16W (EXCEPT:TRV310/TRV310P)
R5632	1-216-864-11		0	5%	1/16W	R5676	1-216-864-11	METAL CHIP	0 5% 1/16W
R5637	1-216-864-11	(EXCEPT:TRV110 METAL CHIP	JE:AEP,UK, 0	,EE,NE,RU/ 5%	1/16W	R5678	1-216-864-11	METAL CHIP	(EXCEPT:TRV310/TRV310P) 0 5% 1/16W
55/10			,		TRV310P)	55/70			(TRV310/TRV310P)
R5640 R5641	1-218-895-11 1-218-883-11		100K 33K	0.50% 0.50%		R5679	1-216-805-11	METAL CHIP	47 5% 1/16W (EXCEPT:TRV310/TRV310P)
R5643	1-216-841-11		33K 47K	0.50% 5%	1/16W				(EXCEPT:TRV3T0/TRV3T0P)
113043	1 210 041 11	WEINE OIII	4710		TRV310P)	R5680	1-216-805-11	METAL CHIP	47 5% 1/16W
R5643	1-216-842-11		56K	5%	1/16W	R5681	1-216-805-11	METAL CHIP	(EXCEPT:TRV310/TRV310P) 47 5% 1/16W
R5643	1-216-845-11		100K	5%	1/16W	R5682	1-216-805-11	METAL CHIP	(EXCEPT:TRV310/TRV310P) 47 5% 1/16W
R5644	1-216-839-11	•	3/TRV110 33K	/TRV110E/ 5%	TRV110P) 1/16W	R5683	1-216-805-11	METAL CHID	(TRV310/TRV310P) 47 5% 1/16W
R5647	1-216-839-11		0	5%	1/16W				(TRV310/TRV310P)
R5648	1-216-864-11	METAL CHIP	0	(TRV310/ 5%	TRV310P) 1/16W	R5684	1-216-805-11	METAL CHIP	47 5% 1/16W (TRV310/TRV310P)
110070	. 2.0 004 11		Ü		TRV310P)				(111.010/111.0101)

#### PD-105/106 PJ-95/96/98

Ref. No.	Part No.	Description			Remarks	Ref. No.	Part No.	Description	Remarks
			471/	F0/				· · · · · · · · · · · · · · · · · · ·	
R5685	1-216-841-11	METAL CHIP	47K	5%	1/16W /TRV310P)	R5903	1-216-828-11	METAL CHIP 3.9K 0/TRV210E/TRV310/TRV31	5% 1/16W
R5685	1-216-842-11	METAL CHIP	56K	5%	1/16W	R5904	1-216-832-11		5% 1/16W
113003	1-210-042-11	WETAL CITI	JUK		/TRV310P)	13704		0/TRV210E/TRV310/TRV31	
R5686	1-216-841-11	METAL CHIP	47K	5%	1/16W	R5905	1-216-838-11		5% 1/16W
110000	1 210 011 11	WEINE OIM			/TRV310P)	110700		0/TRV210E/TRV310/TRV31	
R5686	1-216-842-11	METAL CHIP	56K	5%	1/16W	R5906	1-216-855-11		5% 1/16W
				(TRV310	/TRV310P)		(TRV203/TRV21	0/TRV210E/TRV310/TRV31	IOE/TRV310P/TRV315)
R5688	1-216-864-11	METAL CHIP	0	5%	1/16W	R5907	1-216-864-11	METAL CHIP 0	5% 1/16W
							(TRV203/TRV21	0/TRV210E/TRV310/TRV31	IOE/TRV310P/TRV315)
R5692	1-216-851-11		330K	5%	1/16W				
		,			,ee,ne,ru)	R5909	1-216-864-11		5% 1/16W
R5692	1-216-854-11	METAL CHIP	560K	5%	1/16W		`	0/TRV210E/TRV310/TRV31	,
DE (0.4	4 04 ( 000 44	METAL OLUB	`		,EE,NE,RU)	R5911	1-216-864-11		5% 1/16W
R5694	1-216-833-11		10K	5%	1/16W		(TRV203/TRV21	0/TRV210E/TRV310/TRV31	(0E/TRV3T0P/TRV3T5)
R5694	1-216-839-11	O/TRV210E/TRV3	33K	5%	1/16W			< SWITCH >	
K3094	1-210-039-11				/TRV110P)			< 3WIICH >	
R5695	1-216-833-11		10K	5%	1/16W	S5801	1-692-088-41	SWITCH, TACTILE (LCD B	RICHT (+))
113073	1-210-033-11	WETAL CITI	TOK	370	17 10 00	33001	1-072-000-41		10/TRV110E/TRV110P)
R5696	1-216-864-11	METAL CHIP	0	5%	1/16W	S5802	1-692-088-41	,	
110070	. 2.0 00				/TRV310P)	00002	. 072 000 11		IO/TRV110E/TRV110P)
R5697	1-216-864-11	METAL CHIP	0	5%	1/16W	S5803	1-692-088-41	•	
				(TRV310	/TRV310P)				IO/TRV110E/TRV110P)
R5698	1-216-864-11	METAL CHIP	0	5%	1/16W	S5804	1-692-088-41	SWITCH, TACTILE (VOLUI	ME (-))
				`	/TRV310P)			`	IO/TRV110E/TRV110P)
R5703	1-216-055-00	METAL CHIP	1.8K	5%	1/10W	S5900		SWITCH, TACTILE (LCD B	
R5704	1-216-055-00	METAL CHIP	1.8K	5%	1/10W		(TRV203/TRV21	0/TRV210E/TRV310/TRV31	0E/TRV310P/TRV315)
5-7			4001/	=0.4		05004		044704 74074 5 // 00 0	SIGUE ( ))
R5705	1-216-845-11		100K	5%	1/16W	S5901		SWITCH, TACTILE (LCD B	
R5706		METAL CHIP	6.8K	5%	1/16W	05000	•	0/TRV210E/TRV310/TRV31	,
R5707	1-216-837-11		22K	5%	1/16W	S5902		SWITCH, TACTILE (VOLUI	
R5708		METAL CHIP	120	5%	1/16W	CEOO3	`	0/TRV210E/TRV310/TRV31	,
R5709	1-216-817-11	METAL CHIP	470	5%	1/16W	S5903		SWITCH, TACTILE (VOLUI 0/TRV210E/TRV310/TRV31	
R5710	1-216-816-11	METAL CHIP	390	5%	1/16W		(18/203/18/21	U/ IRV2 IUE/ IRV3 IU/ IRV3 I	UE/TRV3TUP/TRV3T3)
110710		0/TRV210E/TRV3						< TRANSFORMER >	
R5710	1-216-864-11		0	5%	1/16W			Transfer Granization	
			03/TRV110	D/TRV110E	/TRV110P)	<b>△</b> T5701	1-431-753-11	TRANSFORMER, INVERTE	ER .
R5801	1-216-823-11	METAL CHIP	1.5K	5%	1/16W		(TRV203/TRV21	0/TRV210E/TRV310/TRV31	IOE/TRV310P/TRV315)
		(TRV1	03/TRV110	D/TRV110E	/TRV110P)	<b>△</b> T5701	1-433-452-11	TRANSFORMER, INVERTE	
R5802	1-216-825-11		2.2K	5%	1/16W			(TRV103/TRV11	10/TRV110E/TRV110P)
					/TRV110P)				
R5803	1-216-828-11		3.9K	5%	1/16W		A 7072 0/0 A	DI OF DOADD COMPLET	r
		(IRVI	U3/TRVTT	J/TRVTTUE.	/TRV110P)			PJ-95 BOARD, COMPLETI 103/TRV110/TRV110E:E,HK	
R5804	1-216-832-11	METAL CHID	8.2K	5%	1/16W		(IKVI	1U3/1RV11U/1RV11UE.E,⊓N ******************	
11,0004	1-210-032-11				/TRV110P)		A-7073-919-A	PJ-98 BOARD, COMPLETI	
R5805	1-216-838-11	METAL CHIP	27K	5%	1/16W			*********	,
					/TRV110P)		A-7073-924-A	PJ-96 BOARD, COMPLETI	Ε
R5806	1-216-822-11	•	1.2K	5%	1/16W				/TRV210E:CN/TRV310/
		(TRV1	03/TRV110	D/TRV110E	/TRV110P)			TRV310E:E,HK,AUS,CN	,JE/TRV310P/TRV315)
R5807	1-216-864-11	METAL CHIP	0	5%	1/16W			********	*
		`	03/TRV110	O/TRV110E	,		A-7073-941-A	PJ-95(IM) BOARD, COMP	LETE
R5808	1-216-864-11		0	5%	1/16W			•	10E:AEP,UK,EE,NE,RU)
		(TRV1	03/TRV110	D/TRV110E	/TRV110P)			********	
DE044	4.047.074.44	METAL OLUB		F0/	4/4/14/		4 7070 054 4	D   0 / /   1   D   D   0   D   0   0   1	(Ref.No.:7000 Series)
R5811	1-216-864-11		0	5%	1/16W		A-7073-954-A	PJ-96(IM) BOARD, COMP	
DE012	1 014 055 11	•			/TRV110P)			(TRVZTUE:AEF	P,UK/TRV310E:AEP,UK)
R5812	1-216-855-11		680K 03/TRV110	5% n/TRV/110F	1/16W /TRV110P)			· · · · · · · · · · · · · · · · · · ·	(Ref.No.:8000 Series)
R5900	1-216-822-11		1.2K	5%	1/16W		Δ-7073-076-Λ	PJ-98(IM) BOARD, COMP	,
110700		0/TRV210E/TRV3					7. 7373 770°A	. 5 70(INI) DOMAD, COIVII	(TR7000E/TR7100E)
R5901	1-216-823-11		1.5K	5%	1/16W			*******	
		0/TRV210E/TRV3							(Ref.No.:9000 Series)
R5902	1-216-825-11	METAL CHIP	2.2K	5%	1/16W				,
	(TRV203/TRV21	0/TRV210E/TRV3	10/TRV310	DE/TRV310	P/TRV315)				

Note	:
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The components identified by mark  $\triangle$  or dotted line with mark 

#### Note:

Les composants identifiés par une marque ∆ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	<u>Description</u>	<u>Remarks</u>	Ref. No.	Part No.	<u>Description</u>			<u>Remarks</u>
		< CAPACITOR >		L104		SHORT 0 (Note			
0404	4 440 570 44	TANITAL OLUB 47 F 000/	. 01.		(EXCE	PT:TRV110E:AEP,U			
C101 C103	1-110-569-11 1-162-964-11	TANTAL. CHIP 47uF 20% CERAMIC CHIP 0.001uF 10%	6.3V 50V	L104	1-412-963-11		0E:AEP,UK/ 100uH	TR/000E	/TR/TOOE)
C103	1-102-904-11	(TRV110E:AEP,UK.EE,NE,RU/TRV21)		L104	1-412-903-11	(TRV110E:AEP,U		I/TRV/21	NE·ΔΕΡΙΙΚ/
		TRV310E:AEP,UK/TR7000E					0E:AEP,UK/		
C104	1-162-964-11		50V	L105	1-216-295-91				,
		(TRV110E:AEP,UK.EE,NE,RU/TRV21)	DE:AEP,UK/		(EXCE	PT:TRV110E:AEP,U			
		TRV310E:AEP,UK/TR7000E	,				0E:AEP,UK/	TR7000E	/TR7100E)
C105	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V	L105	1-412-963-11		100uH	L/TDV21	OF. A ED LIK!
		(TRV110E:AEP,UK.EE,NE,RU/TRV210 TRV310E:AEP,UK/TR7000E				(TRV110E:AEP,U	OE:AEP,UK/		
C106	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V			11(1)	OL.ALI ,ON	TICTOOOL	/11(/100L)
		(TRV110E:AEP,UK.EE,NE,RU/TRV21)	DE:AEP,UK/			< TRANSISTOR >			
		TRV310E:AEP,UK/TR7000E							
				Q101		TRANSISTOR 2SI			
C107	1-162-964-11	CERAMIC CHIP 0.001uF 10% (TRV110E:AEP,UK.EE,NE,RU/TRV21)	50V	Q102	8-729-230-63	TRANSISTOR 2SI	D1819A-QR	S-TX	
		TRV310E:AEP,UK/TR7000E				< RESISTOR >			
C108	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V			< RESISTOR >			
		(TRV110E:AEP,UK.EE,NE,RU/TRV21)	DE:AEP,UK/	R101	1-500-283-11	INDUCTOR CHIP	OUH (Note	e 2)	
		TRV310E:AEP,UK/TR7000E	•	R102	1-216-138-00		3.3	5%	1/8W
C112	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V	R103	1-216-830-11		5.6K	5%	1/16W
		(TRV110E:AEP,UK.EE,NE,RU/TRV210 TRV310E:AEP,UK/TR7000E		R104 R105	1-216-820-11 1-216-836-11		820 18K	5% 5%	1/16W 1/16W
C113	1-162-964-11	CERAMIC CHIP 0.001uF 10%	50V	KIUS	1-210-030-11	WETAL CHIP	ION	376	1/1000
0110	1 102 701 11	(TRV110E:AEP,UK.EE,NE,RU/TRV21)		R106	1-500-283-11	INDUCTOR CHIP	OUH (Note	e 2)	
		TRV310E:AEP,UK/TR7000E	/TR7100E)	R107		INDUCTOR CHIP	OUH (Note	e 2)	
				R108	1-216-821-11		1K	5%	1/16W
		< CONNECTOR >		R109	1-216-821-11		1K	5%	1/16W
CN101	1-785-685-21	CONNECTOR, FFC/FPC (ZIF) 14P		R110	1-500-283-11	INDUCTOR CHIP	UUH		
CIVIOI	1-703-003-21	CONNECTOR, IT C/IT C (ZII) 141		R111	1-414-228-11	INDUCTOR CHIP	OUH (Note	e 2)	
		< DIODE >		R112		INDUCTOR CHIP	•	,	
				R113		INDUCTOR CHIP	`	-	
D101	8-719-062-16			R114		INDUCTOR CHIP	`	,	
D102 D103		DIODE 01ZA8.2(TPL3) DIODE 01ZA8.2(TPL3)		R115	1-414-228-11	INDUCTOR CHIP	OUH (Note	e 2)	
D103		DIODE 012A6.2(1FE3) DIODE MA8082-(K8).S0							
D105		DIODE 01ZA8.2(TPL3)			A-7073-867-A	SE-86 BOARD, CO	OMPLETE		
						`	3/TRV110/	TRV110E	/TRV110P)
D106	8-719-062-16	DIODE 01ZA8.2(TPL3)				*********			
		< JACK >			A 7072 010 A	CE OO DOADD CO	-	Ref.No.:70	000 Series)
		< JACK >			A-7073-918-A	SE-89 BOARD, CO		TR7000F	/TR7100E)
J101	1-537-747-21	TERMINAL BOARD (S VIDEO/VIDEO/A	AUDIO)			******		11170002	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
		`	,				(F	Ref.No.:90	000 Series)
		< COIL >				SE-87 BOARD, CO			
1 101	1 414 070 11	INDUCTOR 1I			(TRV203/TRV21	0/TRV210E/TRV31 ******		/TRV310	P/TRV315)
L101 L102	1-414-072-11	INDUCTOR 1uH SHORT 0 (Note 1)				*****		Paf Na ·80	000 Series)
L102		EPT:TRV110E:AEP,UK,EE,NE,RU/TRV21	DE:AEP.UK/				(11	(CI.IVOO	300 301103)
	`	TRV310E:AEP,UK/TR7000E							
L102	1-412-963-11					< CAPACITOR >			
		(TRV110E:AEP,UK.EE,NE,RU/TRV21)		0/04	4 4 / 4 00 4 44	OFDANAIO OLUB	0.4 5	400/	051/
L103	1-216-295-91	TRV310E:AEP,UK/TR7000E SHORT 0 (Note 1)	/TR/TUUE)	C601 C602		CERAMIC CHIP CERAMIC CHIP	0.1uF 0.1uF	10% 10%	25V 25V
L103		EPT:TRV110E:AEP,UK,EE,NE,RU/TRV21	DE:AFP.UK/	C602	1-104-847-11		22uF	20%	4V
	(L/IOL	TRV310E:AEP,UK/TR7000E		C604	1-104-847-11		22uF	20%	4V
L103	1-412-963-11			C607	1-164-343-11	CERAMIC CHIP	0.056uF	10%	25V
		(TRV110E:AEP,UK.EE,NE,RU/TRV21)				AEB 45			0.51.1
		TRV310E:AEP,UK/TR7000E	/TR7100E)	C608		CERAMIC CHIP	0.056uF	10%	25V
				C609 C610	1-164-343-11	CERAMIC CHIP	0.056uF 22uF	10% 20%	25V 6.3V
				C611		CERAMIC CHIP	0.056uF	10%	25V
				C612	1-110-666-11		22uF	20%	6.3V

Note 1: Resistors are mounted to the location where L102, L103, L104, L105 are printed.

Note 2: Inductors are mounted to the location where R101, R106, R107, R111-115 are printed.

# SE-86/87/89 VC-213

Ref. No.	Part No.	Description			Remarks	Ref. No.	Part No.	Description			Remarks
C614		CERAMIC CHIP	0.33uF	10%	16V	C112	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C616	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	C112	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C617		CERAMIC CHIP	0.01uF	10%	25V	C115	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
						C116	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
		< CONNECTOR >				C117	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
CN601	1-691-350-21	CONNECTOR, FFO	C/FPC (ZIF)	12P		C118	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
CN602		CONNECTOR, SQ	, ,			C119	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
						C120	1-164-866-11	CERAMIC CHIP	47PF	5%	16V
		< IC >				C121	1-107-820-11	CERAMIC CHIP	0.1uF		16V
IC601	8-759-489-19	IC uPC6756GR-8.	JG-E2			C122	1-164-677-11	CERAMIC CHIP	0.033uF	10%	16V
						C123	1-164-882-11	CERAMIC CHIP	220PF	5%	16V
		< COIL >				C124	1-164-882-11	CERAMIC CHIP	220PF	5%	16V
1.401	1 414 754 11	INDUCTOR	10			C125	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
L601	1-414-754-11	INDUCTOR	10uH			C126 C127	1-135-259-11 1-164-943-11	TANTAL. CHIP CERAMIC CHIP	10uF 0.01uF	20% 10%	6.3V 16V
		< RESISTOR >				C127	1-104-945-11	CERAIVIIC CHIP	0.0 Tur	1076	100
						C128	1-164-866-11	CERAMIC CHIP	47PF	5%	16V
R601	1-216-837-11		22K	5%	1/16W	C129	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
R602	1-216-837-11		22K	5%	1/16W	C130	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
R603	1-216-837-11		22K	5%	1/16W	C131	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
R604 R605	1-216-837-11 1-216-864-11		22K 0	5% 5%	1/16W 1/16W	C132	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
						C133	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
R606	1-216-857-11	METAL CHIP	1M	5%	1/16W	C135	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
R607	1-216-833-11	METAL CHIP	10K	5%	1/16W	C136	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
R608	1-216-833-11	METAL CHIP	10K	5%	1/16W	C137	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
R609	1-216-857-11	METAL CHIP	1M	5%	1/16W	C138	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
R611	1-216-835-11	METAL CHIP	15K	5%	1/16W	0400		0554440 0445			
D/12	1 01/ 0/4 11	METAL OLUD	0	E0/	1/1/11/	C139	1-164-949-11	CERAMIC CHIP	0.047uF	100/	16V
R613	1-216-864-11		0	5%	1/16W	C141	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
R614	1-216-864-11	METAL CHIP	0	5%	1/16W	C142	1-107-820-11	CERAMIC CHIP	0.1uF	100/	16V
		< SENSOR >				C143 C144	1-164-943-11 1-164-874-11	CERAMIC CHIP CERAMIC CHIP	0.01uF 100PF	10% 5%	16V 16V
		< SENSOR >				C144	1-104-074-11	CERAIVIIC CHIP	100PF	370	100
SE651	1-803-042-31	•		`	,	C145	1-164-872-11	CERAMIC CHIP	82PF	5%	16V
SE652	1-803-042-41	SENSOR, ANGUL	AR VELOCI	TY (YAW)		C146	1-164-874-11	CERAMIC CHIP	100PF	5%	16V
						C147	1-164-878-11	CERAMIC CHIP	150PF	5%	16V
		6.0				C149	1-164-882-11	CERAMIC CHIP	220PF	5%	16V
	A-7094-280-A	VC-213(N) BOAR			)(TR7000)	C150	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
		*****	******	**		C151	1-164-882-11	CERAMIC CHIP	220PF	5%	16V
	A-7094-281-A	VC-213 (QP) BOA	RD, COMPL	LETE		C170	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
			ICE ASSY)(		/TR7100E)	C172	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
		******				C174	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
		VC-213(VN) BOA RVICE ASSY)(TRV1			P/TRV203/	C175	1-164-874-11	CERAMIC CHIP	100PF	5%	16V
	(02.	, ,	10/TRV310			C176	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
		******			,	C177	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
	A-7094-283-A	VC-213(VQP) BO	ARD, COMP	PLETE		C178	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
		(SERVICE ASSY)	(TRV110E/	TRV210E/	/TRV310E)	C179	1-107-725-11	CERAMIC CHIP	0.1uF	10%	16V
		********				C180	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
			(R	кет.ио.:30	000 Series)	C102	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
						C182 C201	1-107-826-91	CERAMIC CHIP	0.1uF 0.022uF	10%	16V 16V
		< CAPACITOR >				C201	1-107-819-11	CERAMIC CHIP	0.022ui 0.022uF	10%	16V
		< CAPACITOR >				C202	1-164-943-11	CERAMIC CHIP	0.022ui 0.01uF	10%	16V
C101	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	C203	1-164-943-11	CERAMIC CHIP	0.01ul 0.01uF	10%	16V
C102	1-164-943-11		0.01uF	10%	16V	5257		22.0.30110 01111	0.0101	. 575	
C103		CERAMIC CHIP	0.1uF	10%	10V	C205	1-104-852-11	TANTAL. CHIP	22uF	20%	6.3V
C104		TANTALUM CHIP		20%	6.3V	C206	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C105		TANTAL. CHIP	10uF	20%	6.3V	C207	1-107-819-11	CERAMIC CHIP	0.022uF	10%	16V
						C209	1-162-958-11	CERAMIC CHIP	270PF	5%	50V
C106	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C211	1-164-862-11	CERAMIC CHIP	33PF	5%	16V
C107	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V						
C108		CERAMIC CHIP	0.01uF	10%	16V	C213	1-162-908-11	CERAMIC CHIP	3PF	0.25PF	50V
C109		CERAMIC CHIP	0.01uF	10%	16V	C214	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C111	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C215	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
						C217	1-162-958-11	CERAMIC CHIP	270PF	5%	50V
						C219	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	16V

Ref. No.	Part No.	Description			Remarks	Ref. No.	Part No.	Description			Remarks
C221			2205	5%	16V			CERAMIC CHIP	10PF	O EDE	16V
		CERAMIC CHIP	33PF			C311				0.5PF	
C222	1-104-852-11	TANTAL. CHIP	22uF	20%	6.3V	C312		CERAMIC CHIP	22PF	5%	16V
C223		CERAMIC CHIP	0.0047uF	10%	16V		•	TRV110E/TRV210E			
C224		CERAMIC CHIP	0.01uF	10%	16V	C312		CERAMIC CHIP	0.1uF	10%	10V
C225	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V		`	TRV110E/TRV210E			,
						C313		CERAMIC CHIP	220PF	5%	16V
C227	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V		(EXCEPT:	TRV110E/TRV210E	E/TRV310E/1	ΓR7000E	/TR7100E)
C228	1-164-876-11	CERAMIC CHIP	120PF	5%	16V	C314	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C229	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	16V						
C230	1-164-872-11	CERAMIC CHIP	82PF	5%	16V	C315	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C231	1-164-876-11	CERAMIC CHIP	120PF	5%	16V	C316	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
						C317		TANTAL. CHIP	47uF	20%	4V
C234	1-115-156-11	CERAMIC CHIP	1uF		10V	C318		CERAMIC CHIP	1uF	10%	10V
C236		CERAMIC CHIP	0.01uF	10%	16V	C319		CERAMIC CHIP	220PF	5%	16V
C252		TANTAL. CHIP	10uF	20%	6.3V	0317	1 104 002 11	OLIVIIVIIO OIIII	22011	370	101
C253		CERAMIC CHIP	0.01uF	10%	16V	C320	1 16/ 0/2 11	CERAMIC CHIP	0.01uF	10%	16V
C254		TANTALUM CHIP	10uF	20%	4V	C320	1-164-943-11		0.01uF	10%	16V
C234	1-133-201-11	TAINTALUIVI CHIP	TOUF	20%	4 V						
0055	1 107 000 11	OEDANAIO OLIID	0.1		1/1/	C322		TANTAL CHIP	10uF	20%	6.3V
C255		CERAMIC CHIP	0.1uF	E0/	16V	C323		TANTAL. CHIP	47uF	20%	4V
C256	1-164-864-11	CERAMIC CHIP	39PF	5%	16V	C351	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C257		CERAMIC CHIP	390PF	5%	50V						
C258		CERAMIC CHIP	10PF	0.5PF	16V	C352		CERAMIC CHIP	0.01uF	10%	16V
C259	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V	C353	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
						C354		CERAMIC CHIP	0.01uF	10%	16V
C260		CERAMIC CHIP	1uF	10%	10V	C355	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
C261	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C356	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C262	1-109-982-11	CERAMIC CHIP	1uF	10%	10V						
C264	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C357	1-104-908-11	TANTAL. CHIP	47uF	20%	4V
C265	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C401	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
						C404	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C266	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C405		CERAMIC CHIP	0.01uF	10%	16V
C267		CERAMIC CHIP	0.47uF	10%	16V	C406		CERAMIC CHIP	0.01uF	10%	16V
C268		TANTALUM CHIP	10uF	20%	4V	0400	1 104 743 11	OLIVIIVIIO OIIII	0.0101	1070	101
C269		CERAMIC CHIP	0.01uF	10%	16V	C407	1-16/1-0/13-11	CERAMIC CHIP	0.01uF	10%	16V
C270	1-164-938-11		0.0015uF	10%	16V	C457	1-125-777-11		0.01uF	10%	10V 10V
C270	1-104-930-11	CERAIVIIC CHIP	0.0013uF	1076	101	C451		CERAMIC CHIP	0.1uF 0.1uF	10%	10V 10V
C272	1 125 201 11	TANITAL LIMA CLUID	10υΓ	200/	41.7						
C272	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	C453		CERAMIC CHIP	0.1uF	10%	10V
C273	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C454	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C274		CERAMIC CHIP	0.01uF	10%	16V	0.455		0554440 0145		100/	
C276		CERAMIC CHIP	0.1uF		16V	C455		CERAMIC CHIP	0.001uF	10%	16V
C278	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C456		CERAMIC CHIP	0.001uF	10%	16V
						C457		CERAMIC CHIP	0.001uF	10%	16V
C281		CERAMIC CHIP	1uF		10V	C458		CERAMIC CHIP	0.0022uF		50V
C284		TANTALUM CHIP	10uF	20%	4V	C459	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C285		CERAMIC CHIP	12PF	5%	16V						
C286	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V	C460	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C287	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V	C461	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
						C462	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C288	1-164-940-11	CERAMIC CHIP	0.0033uF	10%	16V	C463	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C289		CERAMIC CHIP	0.1uF	10%	10V	C464	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C291	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V						
C292	1-104-852-11	TANTAL. CHIP	22uF	20%	6.3V	C465	1-164-935-11	CERAMIC CHIP	470PF	10%	16V
C293		CERAMIC CHIP	1uF		16V	C466		CERAMIC CHIP	0.0068uF	10%	16V
0270		02.4.40				C467		CERAMIC CHIP	0.047uF	10%	16V
C301	1-109-994-11	CERAMIC CHIP	2.2uF	10%	10V	C468		CERAMIC CHIP	0.22uF	10%	10V
C302		CERAMIC CHIP	0.047uF	10%	16V	C469		CERAMIC CHIP	0.22ui 0.1uF	10%	10V
C303		CERAMIC CHIP	0.047ui 0.001uF	10%	16V	0407	1-125-777-11	CERAINIC CITI	O. Tui	1070	100
C303		CERAMIC CHIP	0.001uF 0.001uF	10%	16V 16V	C470	1 125 777 11	CERAMIC CHIP	0.1uF	10%	10V
						C470			0.1uF 0.1uF	1070	
C305	1-104-937-11	CERAMIC CHIP	0.001uF	10%	16V	C471		CERAMIC CHIP		100/	16V
0207	1 144 042 11	CEDANIC CLUB	0.01	100/	14\/	C472		CERAMIC CHIP	0.022uF	10%	16V
C306		CERAMIC CHIP	0.01uF	10%	16V	C473		CERAMIC CHIP	0.001uF	10%	16V
C307		CERAMIC CHIP	0.01uF	10%	16V	C474	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C308		CERAMIC CHIP	0.01uF	10%	16V			0554445 5:::5		400:	
C309		CERAMIC CHIP	10PF	0.5PF	16V	C475		CERAMIC CHIP	0.047uF	10%	16V
C310	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C476		CERAMIC CHIP	0.0068uF	10%	16V
						C477		CERAMIC CHIP	0.047uF	10%	16V
						C479		CERAMIC CHIP	0.022uF	10%	16V
						C480	1-107-820-11	CERAMIC CHIP	0.1uF		16V

Dof No	Part No.	Description			Domarko	Dof No	Part No.	Description			Domarko
Ref. No.					<u>Remarks</u>	Ref. No.					<u>Remarks</u>
C481	1-107-820-11		0.1uF		16V	C561	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C482	1-164-505-11	CERAMIC CHIP	2.2uF		16V	C563	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C483		CERAMIC CHIP	0.1uF	F0/	16V	C564	1-135-259-11		10uF	20%	6.3V
C484		CERAMIC CHIP	220PF	5%	16V	C565		CERAMIC CHIP	0.47uF	10%	16V
C485	1-125-///-11	CERAMIC CHIP	0.1uF	10%	10V	C566	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C486	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C567	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C501	1-164-850-11		10PF	0.5PF	16V	C568		TANTAL, CHIP	33uF	20%	6.3V
C502		CERAMIC CHIP	0.001uF	10%	16V	C569	1-164-939-11		0.0022uF	10%	16V
C503		CERAMIC CHIP	10PF	0.5PF	16V	C570		CERAMIC CHIP	1uF	1070	10V
C504		CERAMIC CHIP	1uF	0.011	10V	C571			0.1uF	10%	25V
C505	1-115-156-11	CERAMIC CHIP	1uF		10V	C590	1-164-878-11	CERAMIC CHIP	150PF	5%	16V
C506	1-107-686-11	TANTAL. CHIP	4.7uF	20%	16V	C591	1-164-858-11	CERAMIC CHIP	22PF	5%	16V
C507	1-135-201-11	TANTALUM CHIP	10uF	20%	4V	C592	1-164-876-11		120PF	5%	16V
C509	1-115-156-11	CERAMIC CHIP	1uF		10V	C593	1-164-862-11	CERAMIC CHIP	33PF	5%	16V
C510	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V	C594	1-164-878-11	CERAMIC CHIP	150PF	5%	16V
C511		CERAMIC CHIP	0.047uF	10%	16V	C601		TANTAL. CHIP	10uF	20%	10V
C513		CERAMIC CHIP	0.01uF	10%	50V	C602	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C514		CERAMIC CHIP	0.1uF	10%	10V	C603		TANTAL. CHIP	10uF	20%	10V
C515		CERAMIC CHIP	0.001uF	10%	16V	C604		TANTAL. CHIP	10uF	20%	10V
C517	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V	C605	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
CE10	1 1/4 0/2 11	CERAMIC CHIP	0.01	100/	1/1/	0404	1 104 0E1 11	TANTAL CLUD	10Γ	200/	10V
C518	1-164-943-11 1-164-943-11		0.01uF 0.01uF	10% 10%	16V 16V	C606		TANTAL. CHIP CERAMIC CHIP	10uF 33PF	20% 5%	16V
C519 C520		CERAMIC CHIP	0.01uF 0.1uF	10%	10V 10V	C607 C608	1-164-862-11	CERAMIC CHIP	JuF	10%	10V 10V
					10V 10V			CERAMIC CHIP			16V 16V
C521		CERAMIC CHIP	0.1uF	10%		C609			100PF	5%	
C522	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C610	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C523	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V	C611	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C524	1-164-943-11		0.01uF	10%	16V	C612	1-135-210-11	TANTALUM CHIP		20%	10V
C525		CERAMIC CHIP	1uF	10%	10V	C613	1-135-210-11	TANTALUM CHIP		20%	10V
C526		CERAMIC CHIP	0.1uF	10%	10V	C614		CERAMIC CHIP	15PF	5%	16V
C527		CERAMIC CHIP	0.1uF	10%	10V	C615	1-164-874-11		100PF	5%	16V
0327	1-125-777-11	CERTAINIO OTIII	o. rui	1070	101	0013	1-104-074-11	CERAINIC CIIII	10011	370	100
C528	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C616	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C529	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C617	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C530	1-125-839-91	TANTAL. CHIP	47uF	20%	6.3V	C618	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C531	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C619	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
	(	TRV110E/TRV210E		R7000E/		C620	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C532		CERAMIC CHIP		10%	10V						
	(	TRV110E/TRV210E	/TRV310E/1	R7000E/	TR7100E)	C621	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
						C622	1-164-847-11	CERAMIC CHIP	7PF	0.5PF	16V
C533	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C623	1-164-874-11	CERAMIC CHIP	100PF	5%	16V
	(	TRV110E/TRV210E	/TRV310E/1	R7000E/	TR7100E)	C624	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C534	1-119-923-81	CERAMIC CHIP	0.047uF	10%	10V	C625	1-164-862-11	CERAMIC CHIP	33PF	5%	16V
	(	TRV110E/TRV210E	/TRV310E/1	R7000E/	TR7100E)						
C535		TANTALUM CHIP		20%	4V	C626		CERAMIC CHIP	0.01uF	10%	16V
		TRV110E/TRV210E				C627			0.01uF	10%	16V
C536		CERAMIC CHIP		10%	10V	C628		CERAMIC CHIP	0.1uF	10%	10V
	,	TRV110E/TRV210E		R7000E/	TR7100E)	C629		CERAMIC CHIP	0.01uF	10%	16V
C537		CERAMIC CHIP	0.01uF	10%	16V	C630	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
	(	TRV110E/TRV210E	/TRV310E/1	R7000E/	TR7100E)	0/01	1 1/4 040 11	OEDANAIO OLIID	0.01	100/	1/1/
0554	1 1 / 4 0 41 11	OEDANAIO OLUD	0.0047	100/	1/1/	C631		CERAMIC CHIP	0.01uF	10%	16V
C551		CERAMIC CHIP	0.0047uF	10%	16V	C632			0.01uF	10%	16V
C552 C553		TANTAL. CHIP CERAMIC CHIP	10uF	20%	6.3V	C633		CERAMIC CHIP	0.1uF	10%	10V
			0.01uF	10%	16V	C634		CERAMIC CHIP	0.1uF	10%	10V
C554		CERAMIC CHIP	0.01uF	10%	16V	C635	1-125-///-11	CERAMIC CHIP	0.1uF	10%	10V
C555	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	0424	1 104 OE1 11	TANTAL CLUD	10Γ	200/	101/
CEE4	1 164 004 11	CEDAMIC CLUD	0.1uE	100/	25V	C636		TANTAL. CHIP CERAMIC CHIP	10uF 22PF	20%	10V
C556		CERAMIC CHIP	0.1uF	10%		C637	1-164-858-11			5% E%	16V
C557		CERAMIC CHIP	0.1uF	10%	10V	C638	1-164-876-11		120PF	5% E%	16V
C558		CERAMIC CHIP	470PF	10%	16V	C639			33PF	5%	16V
C559 C560		CERAMIC CHIP CERAMIC CHIP	0.22uF 0.01uF	10% 10%	16V 16V	C641	1-109-994-11	CERAMIC CHIP	2.2uF	10%	10V
0300	1-104-743-11	CLINAIVIIC CHIP	o.o rur	10/0	101	C642	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
						C643		TANTAL. CHIP	10uF	20%	10V
						C644	1-164-943-11		0.01uF	10%	16V
						C645			0.01uF	10%	16V
						C646		TANTAL. CHIP	10uF	20%	10V
						, 5576				_3.3	

Ref. No.	Part No.	Description			<u>Remarks</u>	Ref. No.	Part No.	Description			<u>Remarks</u>
C647	1-104-851-11	TANTAL, CHIP	10uF	20%	10V	C708	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C648	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C709	1-164-943-11	CERAMIC CHIP	0.47ui 0.01uF	10%	16V
C649	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C710	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3
C650	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	C710	1-119-750-11	TANTAL. CHIP	22uF	20%	6.3
C650					10V 10V		1-164-943-11		0.01uF		0.3 16V
	1-104-851-11	TANTAL. CHIP	10uF	20%		C712	1-104-943-11	CERAMIC CHIP (EXCE	0.01uF PT:TR7000/	10% FR7000E	
C652	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V						
C653	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C713	1-107-686-11	TANTAL. CHIP	4.7uF	20%	16V
C654	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C714	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C655	1-104-851-11	TANTAL. CHIP	10uF	20%	10V			(EXCE	PT:TR7000/	TR7000E	/TR7100E)
C656	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V	C715	1-135-177-21	TANTALUM CHIP	1uF	20%	20V
						C716	1-164-874-11	CERAMIC CHIP	100PF	5%	16V
C657	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V			(EXCE	PT:TR7000/	TR7000E	/TR7100E)
C658	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	C717	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C659	1-109-982-11	CERAMIC CHIP	1uF	10%	10V						
C660	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	C718	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V
C661	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V	C719	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
						C720	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C662	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C721	1-164-874-11	CERAMIC CHIP	100PF	5%	16V
C663	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V			(EXCE	PT:TR7000/	TR7000E	/TR7100E)
C664	1-104-851-11	TANTAL. CHIP	10uF	20%	10V	C722	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V ´
C665	1-164-668-11	CERAMIC CHIP	510PF	5%	50V						
C666	1-125-899-11	TANTAL. CHIP	220uF	20%	4V	C723	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
0000	20 0,,		2200.	2070	••	C724	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C667	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C725	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V
C668	1-164-864-11	CERAMIC CHIP	39PF	5%	16V	0,20	1 120 777 11		PT:TR7000/		
C669	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V	C726	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C670	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	0720	1 104 743 11		PT:TR7000/		
C671	1-164-862-11	CERAMIC CHIP	33PF	5%	16V	C727	1_107_823_11	CERAMIC CHIP	0.47uF	10%	16V
0071	1-104-002-11	CEIVAIVIIC CITII	3311	J 70	101	0727	1-107-023-11		PT:TR7000/		
C672	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V			(LXCLI	1.11(7000/	I IX / UUUL	/11(/100L)
C673	1-164-844-11	CERAMIC CHIP	4PF	0.25PF	16V	C728	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C674	1-104-844-11	CERAMIC CHIP	4PF 0.47uF	10%	16V	C726	1-164-943-11	CERAMIC CHIP	0.01uF	10%	0.3 V 16 V
C675			0.47ur 1uF	10%	10V 10V						
	1-109-982-11	CERAMIC CHIP				C732	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C676	1-135-149-21	TANTALUM CHIP	2.2UF	20%	10V	C733	1-135-259-11	TANTAL CHIP	10uF	20%	6.3V
0/77	1 1/4 040 11	OEDANAIO OLUB	0.015	100/	1/1/	C734	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C677	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	0705	4 405 050 44	TANTAL OLUD	40 5	000/	
C678	1-125-777-11	CERAMIC CHIP	0.1uF	10%	10V	C735	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C679	1-125-899-11	TANTAL. CHIP	220uF	20%	4V	C736	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C680	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C737	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
0.404	4 4 / 4 0 4 0 4 4	0504440 0140	(EXCEPT:		,	C738	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
C681	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C739	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C682	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	C740	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C684	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C741	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
			(EXCEPT:			C742	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V
C685	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C743	1-164-942-11		0.0068uF	10%	16V
C686	1-104-847-11	TANTAL. CHIP	22uF	20%	4V	C744	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C687	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V						
						C745	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C688	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C746	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C690	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V				PT:TR7000/		
C691	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V	C747	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C692	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C748	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C693	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C749	1-164-937-11	CERAMIC CHIP	0.001uF	10%	16V
C694	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C750		CERAMIC CHIP	0.001uF	10%	16V
C695	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C761	1-135-259-11		10uF	20%	6.3V
C696	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V	C762	1-104-752-11		33uF	20%	6.3V
C701	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V	C763	1-104-847-11		22uF	20%	4V
C702	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V	C765	1-109-982-11		1uF	10%	10V
							(	TRV110E/TRV210E	E/TRV310E/	TR7000E	/TR7100E)
C703	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V						
C704	1-135-259-11	TANTAL. CHIP	10uF	20%	6.3V						
C705	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V						
C706	1-110-569-11	TANTAL. CHIP	47uF	20%	6.3V						
C707	1-107-823-11	CERAMIC CHIP	0.47uF	10%	16V						

Ref. No.	Part No.	Description			<u>Remarks</u>	Ref. No.	Part No.	<u>Description</u>			<u>Remarks</u>
C766 C767	1-104-847-11 1-162-966-11	TANTAL. CHIP CERAMIC CHIP	22uF 0.0022uF	20% 10%	4V 50V	C790		CERAMIC CHIP TRV110E/TRV210E	0.047uF	10%	16V /TR7100F)
C768	(	TRV110E/TRV210E CERAMIC CHIP		ΓR7000E/		C791	1-164-936-11	CERAMIC CHIP TRV110E/TRV210E	680PF	10%	16V ´
C768	1-218-973-11	•	47K	5%	1/16W	C791		CERAMIC CHIP TRV110E/TRV210E	0.01uF E/TRV310E/1	10% 「R7000E	16V /TR7100E)
C769		TRV110E/TRV210E CERAMIC CHIP	7/TRV310E/7 0.22uF	FR7000E/ 10%	TR7100E) 10V	C792 C793		CERAMIC CHIP CERAMIC CHIP	0.01uF 0.01uF	10% 10%	16V 16V
C709		TRV110E/TRV210E				C794		CERAMIC CHIP	68PF	5%	16V
C769	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V	C801	1-104-870-11		0.1uF	370	16V 16V
	(EXCEPT:	TRV110E/TRV210E				C802		TANTALUM CHIP	1uF	20%	20V
C770		CERAMIC CHIP	0.01uF	10%	16V				PT:TR7000/1	TR7000E	-
C770	(EXCEPT: 1-218-990-11	TRV110E/TRV210E	./TRV310E/T	IR7000E/	TR7100E)	C803 C804	1-107-820-11	CERAMIC CHIP CERAMIC CHIP	0.1uF 0.1uF		16V 16V
C770		TRV110E/TRV210E	/TRV310E/1	FR7000E/	TR7100E)	C004	1-107-620-11	CERAIVIIC CHIP	U. TUF		100
C771	` , `	CERAMIC CHIP	1uF	10%	10V	C805	1-119-749-11	TANTAL. CHIP	33uF	20%	4V
C772	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V	C806	1-104-851-11	TANTAL. CHIP	10uF	20%	10V
	(	TRV110E/TRV210E	:/TRV310E/1	ΓR7000E/	TR7100E)	C807	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
						C808	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C772		CERAMIC CHIP	0.01uF	10%	25V	C809	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
	`	TRV110E/TRV210E			,						
C773		CERAMIC CHIP	1uF	10%	10V	C810		CERAMIC CHIP	0.01uF	10%	16V
C774		CERAMIC CHIP	0.01uF	10%	16V	C811		CERAMIC CHIP	0.01uF	10%	16V
	`	TRV110E/TRV210E			,	C812		CERAMIC CHIP	0.01uF	10%	16V
C775			1uF	10%	10V	C813		CERAMIC CHIP	0.01uF	10%	16V
0775		TRV110E/TRV210E				C814	1-164-943-11	CERAMIC CHIP	0.01uF	10%	16V
C775		CERAMIC CHIP	0.01uF	10%	50V	0015	1 1/4 042 11	CEDAMIC CLUD	0.01	100/	1/\/
	(EXCEPT:	TRV110E/TRV210E	/ I R V 3 I U E / I	IR/UUUE/	TR/TUUE)	C815		CERAMIC CHIP	0.01uF	10%	16V 16V
C774	1 1/4 0/2 11	CEDAMIC CLUD	0.01	100/	177	C817		CERAMIC CHIP	0.01uF	10%	
C776		CERAMIC CHIP TRV110E/TRV210E	0.01uF	10%	16V	C818		CERAMIC CHIP CERAMIC CHIP	0.01uF 0.1uF	10%	16V
C777	`	CERAMIC CHIP	1uF	10%	10V	C819 C820		CERAMIC CHIP	0.1uF 0.1uF		16V 16V
C777		CERAMIC CHIP	0.1uF	10%	16V	C020	1-107-020-11	CERAIVIIC CHIP	U. TUF		101
0770		TRV110E/TRV210E				C821	1_107_810_11	CERAMIC CHIP	0.022uF	10%	16V
C778	,	CERAMIC CHIP	0.0047uF		50V	C822		CERAMIC CHIP	0.022ui 0.1uF	1070	16V
0770		TRV110E/TRV210E				C823		CERAMIC CHIP	22PF	5%	16V
C779	`	CERAMIC CHIP	1uF	10%	10V	C824	1-164-854-11		15PF	5%	16V
						C825		CERAMIC CHIP	0.1uF		16V
C780	1-164-941-11	CERAMIC CHIP	0.0047uF	10%	16V						
	(EXCEPT:	TRV110E/TRV210E	:/TRV310E/1	ΓR7000E/	TR7100E)	C826	1-164-942-11	CERAMIC CHIP	0.0068uF	10%	16V
C781	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V	C827	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C782		CERAMIC CHIP	0.22uF	10%	10V	C901	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
	•	TRV110E/TRV210E				C902		CERAMIC CHIP	1uF	10%	10V
C783		CERAMIC CHIP	1uF	10%	10V	C903	1-164-850-11	CERAMIC CHIP	10PF	0.5PF	16V
C784	1-109-982-11	CERAMIC CHIP	1uF	10%	10V	2005	4 4 / 4 0 4 0 4 4	OFD ANALO OLUB	0.04 5	400/	4.04
C785	1 100 000 11	CEDAMIC CUID	1	100/	101/	C905		CERAMIC CHIP	0.01uF	10%	16V
C/85		CERAMIC CHIP TRV110E/TRV210E	1uF :/TD\/210E/3	10%	10V	C906 C907		CERAMIC CHIP CERAMIC CHIP	0.1uF 0.1uF		16V 16V
C785	`		0.22uF	10%	16V	C907		CERAMIC CHIP	0.1uF 0.01uF	10%	16V 16V
C/03		TRV110E/TRV210E				C909		CERAMIC CHIP	0.01ul 0.01uF	10%	16V
C786	,	CERAMIC CHIP		10%	10V	0707	1 104 743 11	OLIVIIVIIO OI III	0.0101	1070	101
	(EXCEPT:	TRV110E/TRV210E	:/TRV310E/1	ΓR7000E/	TR7100E)	C910	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C786	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V	C911	1-107-820-11	CERAMIC CHIP	0.1uF		16V
	(	TRV110E/TRV210E	:/TRV310E/1	ΓR7000E/	TR7100E)	C912	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C787		CERAMIC CHIP		10%	16V	C913	1-107-820-11	CERAMIC CHIP	0.1uF		16V
	(	TRV110E/TRV210E	/TRV310E/1	TR7000E/	TR7100E)	C914	1-107-820-11	CERAMIC CHIP	0.1uF		16V
C707	1 100 002 11	CEDAMIC CLUD	1F	100/	101/						
C787		CERAMIC CHIP TRV110E/TRV210E	1uF :/TDV/210E/7	10% [D7000E/	10V			< CONNECTOR >			
C788	`	CERAMIC CHIP		10%	16V			< CONNECTOR >			
3700		TRV110E/TRV210E				CN101	1-766-346-21	CONNECTOR, FFO	C/FPC 16P		
C788	•		1uF	10%	10V	CN501		CONNECTOR, FFO			
3.00		TRV110E/TRV210E				CN551		CONNECTOR, FFO			
C789	•	CERAMIC CHIP			16V	CN901		CONNECTOR, FFO			
		TRV110E/TRV210E				CN903		CONNECTOR, FFO			
C790	1-162-963-11	CERAMIC CHIP	680PF	10%	50V ´						
	(	TRV110E/TRV210E	/TRV310E/1	ΓR7000E/	TR7100E)						

Note: Resistors are mounted to the location where C768,C770 are printed.

Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description		Remarks
		•						Remarks
CN904		CONNECTOR, FFC		FB606	1-500-238-22		0UH	
CN905		CONNECTOR, FFC		FB801	1-500-238-22		0UH	
CN906		CONNECTOR, FFC		FB901	1-500-238-22	FERRIIE	0UH	
CN907		CONNECTOR, FFC				. 10		
CN908	1-766-345-21	CONNECTOR, FFC	/FPC 15P			< IC >		
CN909	1-766-340-21	CONNECTOR, FFC	C/FPC 10P	IC101	8-759-195-81	IC TC7S86FU(TE	(85R)	
CN910	1-766-350-21	CONNECTOR, FFC	C/FPC 20P	IC102		IC CXA2072R-T		
		CONNECTOR, FFC	. ,	IC103		IC CXA2071R-T		
CN914	1-774-600-41		ARD TO BOARD 70P	IC104		IC F712504DPM		
011044		,	PT:TR7000/TR7000E/TR7000E)	IC162	8-759-338-95	IC NJM2903V(T	E2)	
CN914	1-793-128-21	CONNECTOR, BOX	ARD TO BOARD 70P	10201	0.750.075.01	IC CVA2012D T	,	
			(TR7000/TR7000E/TR7100E)	1		IC CXA2012R-T4 IC MB87F4090P		
				IC251 IC253		IC TC7WH74FU(		
		< DIODE >		IC253		IC TC7SU04F(TE	,	
		( DIODE >		IC255		IC TC7WH125FL		
D251	8-719-055-86	DIODE KV1470TL	1-3				(, _ , _ ,	
D252	8-719-055-86	DIODE KV1470TL	1-3	IC256	8-759-497-44	IC TC7WH125FL	J(TE12R)	
D253	8-713-103-84	DIODE 1T379-01-	T8A	IC291	8-759-169-02	IC MB88344BPF	V-G-BND-ER	
D301		DIODE KV1470TL			(EXCEPT:	TRV110E/TRV210	E/TRV310E/TR70	00E/TR7100E)
D501	8-713-103-84	DIODE 1T379-01-	T8A	IC291		IC M62371GP-6		
5==4		DIODE 1444 (W	0) 00		,		E/TRV310E/TR70	00E/TR7100E)
D551		DIODE MA111-(K	,	IC301		IC HG73C050BP		
D601		DIODE HVC350BT		IC302	8-752-397-36	IC CXD3129GA-	16	
D602 D801		DIODE HVC350BT DIODE MA728-(K		IC303	0 752 207 27	IC CXD3200GA-	Τ.6	
D801		DIODE MA728-(K	•	10303			)E/TRV310E/TR70	ONE/TR7100E)
D002	0 717 070 02	DIODE WINNES (IC	0).00	IC303		IC SN104266GG		002/11(/1002)
D803	8-719-073-02	DIODE MA728-(K	8).S0				E/TRV310E/TR70	00E/TR7100E)
D804		DIODE MA2S111-		IC351		IC M65511AWG		,
D805		DIODE MA2S111-		IC352	8-759-583-86	IC MB90097PFV	-G-123-BND-ER	
D970		DIODE MA8082-(		IC401	8-759-576-29	IC MB91191RPF	F-G-135-BND-ER	
D971	8-719-062-16	DIODE 01ZA8.2(T	PL3)					
D071	0.710.045.07	DIODE MA 47000	A/A ///O) CO	IC402		IC AK6480AM-E		
D971	8-719-045-87	DIODE MA4Z082V	WA-(K8).SU	IC451 IC452		IC LB1950V-TLN		
		< FERRITE BEAD	_	10452		IC LB8112V-TLN	/I DE/TRV310E/TR70	ONE/TD7100E)
		< TEINNITE BEAD		IC452	•	IC TA8482FN-EL		00L/11X/100L)
FB101	1-500-238-22	FERRITE	OUH	10.02			)E/TRV310E/TR70	00E/TR7100E)
FB102	1-500-238-22	FERRITE	OUH	IC453	8-759-338-95	IC NJM2903V(T	E2)	•
FB252	1-500-238-22	FERRITE	OUH					
FB253	1-500-238-22		OUH	IC501		IC CXD2444R-T		
FB254	1-500-238-22	FERRITE	OUH	IC502		IC AD9808AJST		
EDOE (	4 500 004 04	INDUISTOR OUID	01111	IC503		IC CXD3145R-T		005/5074005)
FB256	1-500-284-21	INDUCTOR CHIP	OUH	ICEE1	,	IC uPD16833AG	)E/TRV310E/TR70	UUE/TR/TUUE)
FB257 FB291	1-500-238-22		OUH OUH	IC551			3-E2 )E/TRV310E/TR70	00F/TR7100F)
FB302	1-500-238-22		OUH	IC551	,	IC MPC17A134V		00L/11(/100L)
FB303	1-500-238-22		OUH	10001			E/TRV310E/TR70	00E/TR7100E)
					`			,
FB304	1-500-238-22		OUH	IC552		IC NJM324V(TE		
FB401	1-500-238-22		OUH	IC601		IC SC371053AF		
FB501	1-500-238-22		OUH	IC641		IC NJM2533V(T	,	
FB502		INDUCTOR CHIP		IC642		IC NJM2533V(T	,	
FB503	1-500-284-21	INDUCTOR CHIP	UUH	IC643	8-759-534-25	IC AN2222FBQ-F	ER.	
FB504	1-500-238-22	FFRRITF	OUH	IC644	8-759-498-52	IC LA9511W-TB	M	
FB505	1-500-238-22		OUH	IC701		IC AN2902FHQ-I		
1 0000			:/TRV310E/TR7000E/TR7100E)	1		IC AK4518-VF-E		
FB506	1-500-238-22		OUH	IC760		IC CXA2087R-Te		
			:/TRV310E/TR7000E/TR7100E)				E/TRV310E/TR70	00E/TR7100E)
FB507		INDUCTOR CHIP		IC760		IC AN2982FH-A-		•
			/TRV310E/TR7000E/TR7100E)		(EXCEPT:	TRV110E/TRV210	E/TRV310E/TR70	00E/TR7100E)
FB508		INDUCTOR CHIP						
	(	TRV110E/TRV210E	(/TRV310E/TR7000E/TR7100E)					

Ref. No.	Part No.	Description		<u>Remarks</u>	Ref. No.	Part No.	Description	<u>Remarks</u>
IC801	8-759-589-54	IC S579604PZ-TE	R				< TRANSISTOR >	
IC802		IC S-8423YFS-T2						
IC803		IC TL1596CPWR			Q101	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR(TPL3)	
IC901		IC AK6480AM-E2			Q102		TRANSISTOR RN1104F(TPL3)	
IC902		IC MB91191RPFF			Q103		TRANSISTOR 2SC4738F-Y/GR(TPL3)	
					Q104		TRANSISTOR RN1104F(TPL3)	
					Q105	8-729-042-29	TRANSISTOR RN1104F(TPL3)	
		< COIL >						
					Q106		TRANSISTOR 2SA1832F-Y/GR(TPL3)	
L103	1-414-754-11	INDUCTOR	10uH		Q107		TRANSISTOR 2SA1832F-Y/GR(TPL3)	
L104	1-414-754-11	INDUCTOR	10uH		Q108		TRANSISTOR 2SA1965-S-TL	
L105	1-414-754-11	INDUCTOR	10uH		Q109		TRANSISTOR 2SC4738F-Y/GR(TPL3)	
L106	1-412-066-21	INDUCTOR CHIP	220uH		Q110	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)	
L107	1-412-952-11	INDUCTOR	12uH		0111	0 700 007 50	TRANSISTOR 2504720F V/CD/TDI 2)	
1140	1-414-754-11	INDUCTOR	10uH		Q111 Q112		TRANSISTOR 2SC4738F-Y/GR(TPL3) TRANSISTOR 2SC4738F-Y/GR(TPL3)	
L162 L163	1-414-754-11	INDUCTOR	56uH		Q112 Q113		TRANSISTOR 2SA1965-S-TL	
L201	1-412-966-21	INDUCTOR CHIP	220uH		Q113		TRANSISTOR 2SA1965-S-TL	
L201	1-412-957-11	INDUCTOR	33uH		Q115		TRANSISTOR 2SC4738F-Y/GR(TPL3)	
L204	1-412-280-31	INDUCTOR	330uH		2113	0 727 037 32	1101103131011 23047301 17011(11 E3)	
LLOT	1 112 200 01	NVD COTOR	000011		Q166	8-729-037-53	TRANSISTOR 2SA1832F-Y/GR(TPL3)	
L205	1-410-657-21	INDUCTOR CHIP	180uH		Q167		TRANSISTOR 2SC4738F-Y/GR(TPL3)	
L206	1-412-956-21	INDUCTOR	27uH		Q170		TRANSISTOR XN4501-TW	
L208	1-412-951-11	INDUCTOR	10uH		Q201		TRANSISTOR 2SC4738F-Y/GR(TPL3)	
L209	1-412-279-31	INDUCTOR	270uH		Q202	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)	
L211	1-414-754-11	INDUCTOR	10uH					
					Q203	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)	
L212	1-414-080-11	INDUCTOR	22uH		Q204	8-729-037-89	TRANSISTOR 2SC4627J-C(K8).S0	
L251	1-414-754-11	INDUCTOR	10uH		Q205		TRANSISTOR 2SA1965-S-TL	
L252	1-414-754-11	INDUCTOR	10uH		Q206		TRANSISTOR 2SA1832F-Y/GR(TPL3)	
L253	1-414-754-11	INDUCTOR	10uH		Q208	8-729-042-29	TRANSISTOR RN1104F(TPL3)	
L254	1-414-754-11	INDUCTOR	10uH		0200	0.700.007.50	TRANSISTOR 2004720F V/CD/TDI 2)	
L255	1-414-754-11	INDUCTOR	10uH		Q209 Q210		TRANSISTOR 2SC4738F-Y/GR(TPL3) TRANSISTOR 2SA1832F-Y/GR(TPL3)	
L255 L256	1-414-754-11	INDUCTOR	22uH		Q210 Q213		TRANSISTOR RN1104F(TPL3)	
L250	1-412-935-11	INDUCTOR	3.3uH		Q213		TRANSISTOR KNT1041 (TFLS) TRANSISTOR UN9213J-(K8).SO	
L258	1-414-406-11	INDUCTOR	220uH		Q214		TRANSISTOR 2SC4738F-Y/GR(TPL3)	
L291	1-414-754-11	INDUCTOR	10uH		42	0 727 007 02		
					Q215	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)	
L301	1-414-245-11	INDUCTOR	1.5uH		Q216	8-729-230-72	TRANSISTOR 2SA1362-YG-EL	
L351	1-414-754-11	INDUCTOR	10uH		Q217	8-729-042-29	TRANSISTOR RN1104F(TPL3)	
L352	1-414-755-11	INDUCTOR	22uH		Q217		TRANSISTOR UN9213J-(K8).SO	
L502	1-414-398-11		10uH		Q218	8-729-042-29	TRANSISTOR RN1104F(TPL3)	
L503	1-414-754-11		10uH					
	(	TRV110E/TRV210E	:/TRV310E/TR7000E/	TR7100E)	Q251		TRANSISTOR 2SC4738F-Y/GR(TPL3)	
1.554	4 44 4 75 4 44	INDUIGTOR	40.11		Q252		TRANSISTOR RN1104F(TPL3)	
L551	1-414-754-11		10uH		Q253		TRANSISTOR 2SA1832F-Y/GR(TPL3)	
L552 L553	1-414-398-11 1-414-754-11	INDUCTOR	10uH 10uH		Q254 Q255		TRANSISTOR 2SC4738F-Y/GR(TPL3) TRANSISTOR 2SA1832F-Y/GR(TPL3)	
L601	1-414-754-11	INDUCTOR	10uH		Q255	0-729-037-33	TRANSISTOR 25A10321-1/GR(TFL5)	
L602	1-414-754-11	INDUCTOR	10uH		Q351	8-729-037-52	TRANSISTOR 2SC4738F-Y/GR(TPL3)	
LOUZ	1 111 701 11	NVD COTOR	10011		Q352		TRANSISTOR 2SC4738F-Y/GR(TPL3)	
L603	1-412-948-11	INDUCTOR	5.6uH		Q353		TRANSISTOR 2SC4738F-Y/GR(TPL3)	
L604	1-412-942-21	INDUCTOR	1.8uH		Q354		TRANSISTOR 2SC4738F-Y/GR(TPL3)	
L605	1-412-948-11	INDUCTOR	5.6uH		Q355		TRANSISTOR 2SC4738F-Y/GR(TPL3)	
L606	1-412-950-11	INDUCTOR	8.2uH				, ,	
L607	1-412-950-11	INDUCTOR	8.2uH		Q356		TRANSISTOR 2SC4738F-Y/GR(TPL3)	
					Q452		TRANSISTOR 2SA1832F-Y/GR(TPL3)	
L641	1-414-754-11	INDUCTOR	10uH		Q453		TRANSISTOR 2SA1832F-Y/GR(TPL3)	
L642	1-414-754-11	INDUCTOR	10uH		Q454		TRANSISTOR 2SC4738F-Y/GR(TPL3)	
L643	1-412-957-11	INDUCTOR	33uH		Q455	8-729-042-29	TRANSISTOR RN1104F(TPL3)	
L644	1-412-957-11	INDUCTOR	33uH		0.457	0.700.040.05	TRANSPORTED BANKAGAS (TC) (C)	
L645	1-412-948-11	INDUCTOR	5.6uH		Q456		TRANSISTOR RN1104F(TPL3)	
1 701	1 /1/ 75/ 11	INDUCTOR	10uU		Q457		TRANSISTOR RN1104F(TPL3)	
L701 L702	1-414-754-11 1-414-754-11	INDUCTOR INDUCTOR	10uH 10uH		Q551 Q552		TRANSISTOR 2SC4738F-Y/GR(TPL3) TRANSISTOR 2SC4738F-Y/GR(TPL3)	
L/UZ	1-414-704-11	INDUCIOK	TOULT		Q552 Q553		TRANSISTOR 2SA1832F-Y/GR(TPL3)	
					, 2000	5 12/001-00		

Ref. No.	Part No.	Description			Remarks	Ref. No.	Part No.	Description			Remarks
		•			IXCITIALKS			·			IXCITIALKS
Q554		TRANSISTOR 2S				R113	1-218-990-11	SHORT 0			
Q601		TRANSISTOR 2SI				R114	1-218-979-11	RES,CHIP	150K	5%	1/16W
Q602		TRANSISTOR UN				R115	1-218-989-11	RES,CHIP	1M	5%	1/16W
Q603		TRANSISTOR 2S				R116	1-218-966-11		12K	5% 5%	1/16W
Q604	8-729-037-53	TRANSISTOR 2S	A 1832F-Y/C	∍R(TPL3)		R117	1-218-965-11	RES,CHIP	10K	5%	1/16W
Q605	8-729-037-52	TRANSISTOR 2S	C4738F-Y/0	GR(TPL3)		R118	1-218-949-11	RES,CHIP	470	5%	1/16W
Q606		TRANSISTOR 2S		` ,		R119	1-218-939-11	RES,CHIP	68	5%	1/16W
Q607		TRANSISTOR 2S				R120	1-218-966-11	RES,CHIP	12K	5%	1/16W
Q608		TRANSISTOR 2S				R121	1-218-961-11	RES,CHIP	4.7K	5%	1/16W
Q609	8-729-037-53	TRANSISTOR 2S	A1832F-Y/0	GR(TPL3)		R122	1-218-965-11	RES,CHIP	10K	5%	1/16W
Q610	8-729-807-86	TRANSISTOR 2S	R1295-III 5	-TR		R123	1-218-990-11	SHORT 0			
Q641		TRANSISTOR 2S				R124	1-218-969-11	RES,CHIP	22K	5%	1/16W
					TR7100E)	R125	1-220-195-11		11K	5%	1/16W
Q642	8-729-037-61	TRANSISTOR RN			,	R126	1-218-969-11	RES,CHIP	22K	5%	1/16W
					TR7100E)	R127	1-208-715-11	RES,CHIP	22K	0.50%	1/16W
Q643	8-729-040-77	TRANSISTOR 2S	C5376-B(TI	E85L)				•			
					TR7100E)	R128	1-218-969-11	RES,CHIP	22K	5%	1/16W
Q644	8-729-040-77	TRANSISTOR 2S				R129	1-218-969-11	RES,CHIP	22K	5%	1/16W
			(EXCEPT	:TR7000E/	TR7100E)	R130	1-218-973-11	RES,CHIP	47K	5%	1/16W
						R131	1-218-974-11	RES,CHIP	56K	5%	1/16W
Q645		TRANSISTOR 2S		- ( - /		R132	1-218-969-11	RES,CHIP	22K	5%	1/16W
Q646		TRANSISTOR 2SA				5400		550 01115	2014	=0.	
Q647		TRANSISTOR 2S				R133	1-218-971-11	RES,CHIP	33K	5%	1/16W
Q701		TRANSISTOR 2S				R134	1-218-945-11	RES,CHIP	220	5%	1/16W
Q702	8-729-037-71	TRANSISTOR UN	19210J-(K8)	).50		R135	1-218-946-11		270	5%	1/16W
0702	0 700 007 50	TDANICICTOD 20	C 4720F \//	CD/TDL 2\		R136	1-218-945-11	RES,CHIP	220	5%	1/16W
Q703		TRANSISTOR 2S				R137	1-218-945-11	RES,CHIP	220	5%	1/16W
Q704 Q705		TRANSISTOR 2SO TRANSISTOR UN				R138	1-218-945-11	RES,CHIP	220	5%	1/16W
Q705 Q706		TRANSISTOR ON				R130	1-218-945-11	RES,CHIP	220	5%	1/16W
Q707		TRANSISTOR RN				R140	1-218-957-11		2.2K	5%	1/16W
0101	0-727-037-32	TRANSISTOR 25	047301-170	JIN(TI LJ)		R141	1-218-961-11	RES,CHIP	4.7K	5%	1/16W
Q708	g 720 037 63	TRANSISTOR UN	  0115  (ΚΩ	02 (		R142	1-218-990-11	SHORT 0	4.71	J 70	17 10 00
Q709		TRANSISTOR UN	` '	,		11172	1-210-770-11	31101(1 0			
Q710		TRANSISTOR RN				R143	1-218-941-11	RES,CHIP	100	5%	1/16W
Q711		TRANSISTOR 2S				R144	1-218-938-11	RES,CHIP	56	5%	1/16W
Q801		TRANSISTOR RN				R145	1-218-950-11		560	5%	1/16W
				/		R146	1-218-960-11	RES,CHIP	3.9K	5%	1/16W
Q802	8-729-042-29	TRANSISTOR RN	1104F(TPL	.3)		R147	1-218-960-11		3.9K	5%	1/16W
Q803		TRANSISTOR 2S									
		(EXCE	PT:TR7000	/TR7000E/	TR7100E)	R148	1-218-965-11	RES,CHIP	10K	5%	1/16W
Q804	8-729-037-52	TRANSISTOR 2S	C4738F-Y/0	GR(TPL3)		R149	1-218-965-11	RES,CHIP	10K	5%	1/16W
Q805	8-729-041-43	TRANSISTOR HN	1L02FU(TE	85R)		R150	1-218-965-11	RES,CHIP	10K	5%	1/16W
Q806	8-729-042-58	TRANSISTOR UN	9111J-(K8)	).SO		R151	1-218-960-11	RES,CHIP	3.9K	5%	1/16W
						R152	1-218-960-11	RES,CHIP	3.9K	5%	1/16W
Q807	8-729-037-52	TRANSISTOR 2S		. ,	TD3400E)	D47/	4 040 075 44	DEC OLUB	401/	F0/	4/4/14/
	0.700.010.00		PT:TR7000/		TR/100E)	R176	1-218-965-11	RES,CHIP	10K	5%	1/16W
Q808	8-729-042-29	TRANSISTOR RN			TD74005\	R177	1-218-975-11	RES,CHIP	68K	5%	1/16W
0051	0.700.040.00		PT:TR7000/		TR/100E)	R178	1-218-965-11	RES,CHIP	10K	5%	1/16W
Q951	8-729-042-29	TRANSISTOR RN	11104F(1PL	.3)		R179	1-218-960-11	RES,CHIP	3.9K	5%	1/16W
		< RESISTOR >				R180	1-218-940-11	RES,CHIP	82	5%	1/16W
		· ILUIUIUIV /				R181	1-218-948-11	RES,CHIP	390	5%	1/16W
R101	1-218-990-11	SHORT 0				R182	1-218-974-11	RES,CHIP	56K	5%	1/16W
R102	1-218-931-11	RES,CHIP	15	5%	1/16W	R183	1-218-959-11	RES,CHIP	3.3K	5%	1/16W
R104	1-218-990-11					R184	1-218-975-11	RES,CHIP	68K	5%	1/16W
R106	1-218-977-11	RES,CHIP	100K	5%	1/16W	R185	1-218-969-11	RES,CHIP	22K	5%	1/16W
R107	1-218-990-11	SHORT 0									
						R186	1-218-977-11	RES,CHIP	100K	5%	1/16W
R108	1-218-990-11					R187	1-218-977-11	RES,CHIP	100K	5%	1/16W
R109	1-218-990-11	SHORT 0				R188	1-218-968-11	RES,CHIP	18K	5%	1/16W
R110	1-218-990-11	SHORT 0				R189	1-218-986-11	RES,CHIP	560K	5%	1/16W
R111	1-218-965-11		10K	5%	1/16W	R190	1-218-981-11	RES,CHIP	220K	5%	1/16W
R112	1-218-962-11	RES,CHIP	5.6K	5%	1/16W						

Ref. No.	Part No.	<u>Description</u>			<u>Remarks</u>	Ref. No.	Part No.	<u>Description</u>			<u>Remarks</u>
R191	1-218-985-11	RES,CHIP	470K	5%	1/16W	R270	1-216-828-11	METAL CHIP	3.9K	5%	1/16W
R192	1-218-965-11	RES,CHIP	10K	5%	1/16W	R272	1-218-989-11	RES,CHIP	1M	5%	1/16W
R195	1-218-969-11	RES,CHIP	22K	5%	1/16W	R274	1-218-967-11	RES,CHIP	15K	5%	1/16W
R201	1-208-677-11	RES,CHIP	560	0.50%	1/16W	R275	1-218-977-11	RES,CHIP	100K	5%	1/16W
R202	1-216-789-11	METAL CHIP	2.2	5%	1/16W	R277	1-218-967-11	RES,CHIP	15K	5%	1/16W
D		550 01115	401/	=0.		5070		550 01115	401/	=0.	
R203	1-218-965-11	RES,CHIP	10K	5%	1/16W	R278	1-218-965-11		10K	5%	1/16W
R204	1-218-969-11	- / -	22K	5%	1/16W	R279	1-218-953-11		1K	5%	1/16W
R207	1-218-957-11		2.2K	5%	1/16W	R280	1-218-977-11		100K	5%	1/16W
R208	1-218-957-11	,	2.2K	5%	1/16W	R281	1-218-977-11	- 1 -	100K	5%	1/16W
R209	1-218-949-11	RES,CHIP	470	5%	1/16W	R282	1-218-941-11	RES,CHIP	100	5%	1/16W
R210	1-218-990-11	SHORT 0				R283	1-218-990-11	SHORT 0			
R211	1-218-949-11		470	5%	1/16W	R284	1-218-989-11		1M	5%	1/16W
R211	1-208-707-11	,	10K	0.50%	1/16W	R285	1-218-985-11		470K	5%	1/16W
R214	1-218-948-11		390	5%	1/16W	R286	1-218-990-11		47010	370	171000
R214 R215	1-218-947-11	RES,CHIP	330	5%	1/16W	R288	1-218-959-11		3.3K	5%	1/16W
KZ13	1-210-947-11	RES,UNIP	330	370	1/1000	K200	1-210-939-11	KE3,CHIP	3.3N	376	1/1000
R216	1-218-947-11	RES,CHIP	330	5%	1/16W	R289	1-218-946-11	RES,CHIP	270	5%	1/16W
R217	1-218-985-11	•	470K	5%	1/16W	R291	1-218-990-11				
R219	1-218-945-11	•	220	5%	1/16W	R301	1-218-937-11		47	5%	1/16W
R220	1-218-965-11	•	10K	5%	1/16W	R302	1-218-961-11		4.7K	5%	1/16W
R221	1-218-952-11	RES,CHIP	820	5%	1/16W	R303	1-218-947-11	- 1 -	330	5%	1/16W
11221	1-210-732-11	RES,OTH	020	370	17 10 00	1000	1-210-747-11	ICLO, OTHI	330	370	1/1000
R222	1-218-953-11	RES,CHIP	1K	5%	1/16W	R304	1-218-965-11	RES,CHIP	10K	5%	1/16W
R226	1-218-985-11	RES.CHIP	470K	5%	1/16W	R305	1-218-965-11	RES.CHIP	10K	5%	1/16W
R227	1-218-947-11	•	330	5%	1/16W	R306	1-218-990-11				
R228	1-218-965-11	•	10K	5%	1/16W	R307	1-218-947-11		330	5%	1/16W
R231	1-218-957-11	RES,CHIP	2.2K	5%	1/16W	R308	1-218-990-11		000	070	171011
11201	1 210 707 11	1120,01111	2.210	070	171011	11000	121077011	GHOITH 0			
R232	1-218-971-11	RES,CHIP	33K	5%	1/16W	R309	1-218-990-11	SHORT 0			
R233	1-218-953-11	RES,CHIP	1K	5%	1/16W	R310	1-218-990-11	SHORT 0			
R234	1-218-950-11	RES,CHIP	560	5%	1/16W		(	TRV110E/TRV2	10E/TRV310E	TR7000E	/TR7100E)
R235	1-218-960-11	RES,CHIP	3.9K	5%	1/16W	R311	1-218-990-11	SHORT 0			
R236	1-218-951-11	RES,CHIP	680	5%	1/16W	R312	1-218-990-11				
								TRV110E/TRV2	10E/TRV310E	TR7000E	/TR7100E)
R237	1-218-955-11	RES,CHIP	1.5K	5%	1/16W	R313	1-218-990-11	SHORT 0			
R239	1-218-965-11	RES,CHIP	10K	5%	1/16W		(	TRV110E/TRV2	10E/TRV310E	TR7000E	/TR7100E)
R240	1-218-958-11	RES,CHIP	2.7K	5%	1/16W		`				,
R241	1-218-961-11		4.7K	5%	1/16W	R314	1-218-990-11	SHORT 0			
R242	1-218-961-11	RES,CHIP	4.7K	5%	1/16W			TRV110E/TRV2	10E/TRV310E	TR7000E	/TR7100E)
		-,-				R315	1-218-990-11	SHORT 0			,
R243	1-218-965-11	RES.CHIP	10K	5%	1/16W	R317	1-218-990-11	SHORT 0			
R251	1-218-965-11		10K	5%	1/16W	1.0.7		TRV110E/TRV2	10F/TRV310F	TR7000F	/TR7100F)
R252	1-218-977-11		100K	5%	1/16W	R318	1-218-990-11		102/11(10102)	11170001	,,,,,,,
R253	1-218-957-11	•	2.2K	5%	1/16W	1.0.0		TRV110E/TRV2	10F/TRV310F	TR7000F	/TR7100F)
R254	1-218-965-11		10K	5%	1/16W	R319	1-218-990-11		102,11110102,	11170001	,,,,,,,
11201	1 210 700 11	1120,01111	1010	070	171011	11017		TRV110E/TRV2	10E/TRV310E	TR7000E	/TR7100E)
R255	1-218-954-11	RES,CHIP	1.2K	5%	1/16W		,				•
R256	1-218-955-11	RES,CHIP	1.5K	5%	1/16W	R320	1-218-990-11	SHORT 0			
R257	1-218-962-11	RES,CHIP	5.6K	5%	1/16W		(EXCEPT:	TRV110E/TRV2	10E/TRV310E	TR7000E	/TR7100E)
R258	1-218-953-11		1K	5%	1/16W	R321	1-218-990-11				,
R259	1-218-963-11		6.8K	5%	1/16W	R322	1-218-990-11				
							(	TRV110E/TRV2	10E/TRV310E	TR7000E	/TR7100E)
R260	1-218-954-11		1.2K	5%	1/16W	R323	1-218-990-11	SHORT 0			
R261	1-218-943-11	RES,CHIP	150	5%	1/16W		(	TRV110E/TRV2	10E/TRV310E	TR7000E	/TR7100E)
R262	1-218-949-11	RES,CHIP	470	5%	1/16W	R324	1-218-990-11	SHORT 0			
R263	1-218-941-11	RES,CHIP	100	5%	1/16W		(	TRV110E/TRV2	10E/TRV310E	TR7000E	/TR7100E)
R264	1-218-943-11	RES,CHIP	150	5%	1/16W						,
						R325	1-218-990-11				
R265	1-218-972-11		39K	5%	1/16W		,	TRV110E/TRV2	10E/TRV310E	TR7000E	/TR7100E)
R266	1-218-952-11		820	5%	1/16W	R326	1-218-990-11	SHORT 0			
R267	1-218-977-11	RES,CHIP	100K	5%	1/16W			TRV110E/TRV2	10E/TRV310E	TR7000E	/TR7100E)
R268	1-218-959-11	RES,CHIP	3.3K	5%	1/16W	R327	1-218-849-11	RES,CHIP	1.2K	0.50%	1/16W
R269	1-216-825-11	METAL CHIP	2.2K	5%	1/16W			TRV110E/TRV2		TR7000E	/TR7100E)
						R328	1-218-849-11	RES,CHIP	1.2K	0.50%	1/16W
							(EXCEPT:	TRV110E/TRV2	10E/TRV310E	TR7000E	/TR7100E)
						R329	1-218-990-11				•
							(EXCEPT:	TRV110E/TRV2	10E/TRV310E	TR7000E	/TR7100E)

Ref. No.	Part No.	<u>Description</u>			<u>Remarks</u>	Ref. No.	Part No.	Description			<u>Remarks</u>
R330	1-208-709-11	DES CHID	12K	0.50%	1/16W	R416	1-218-953-11	RES CHIP	1K	5%	1/16W
11330		TRV110E/TRV210				1	1-218-961-11				1/16W
D004	,				,	R417			4.7K	5%	1/1000
R331	1-208-703-11	•	6.8K		1/16W	R418	1-218-990-11				
	(EXCEPT:	TRV110E/TRV210I	E/TRV310E/	TR7000E	(/TR7100E)	R419	1-218-977-11	RES,CHIP	100K	5%	1/16W
R331	1-218-990-11	SHORT 0				R422	1-218-990-11	SHORT 0			
	(	TRV110E/TRV210	E/TRV310E/	TR7000E	/TR7100E)						
R332	1-218-990-11				,	R423	1-218-990-11	SHORT 0			
11002		TRV110E/TRV210	E/TD\/210E	/TD7000E	/TD7100E\	R424	1-218-965-11		10K	5%	1/16W
Daga	,				,	1					
R333	1-208-709-11	- / -	12K		1/16W	R425	1-218-965-11		10K	5%	1/16W
	(	TRV110E/TRV210	E/TRV310E/	TR7000E	(/TR7100E)	R426	1-218-977-11	RES,CHIP	100K	5%	1/16W
						R427	1-218-977-11	RES,CHIP	100K	5%	1/16W
R333	1-218-990-11	SHORT 0									
	(EXCEPT:	TRV110E/TRV210I	E/TRV310E/	TR7000E	/TR7100E)	R428	1-218-985-11	RES,CHIP	470K	5%	1/16W
R334	1-218-990-11				,	R429	1-218-977-11		100K	5%	1/16W
11004		TRV110E/TRV210I	E/TD\/210E	/TD7000E	/TD7100E)	R430	1-218-943-11		150	5%	1/16W
Daar	`		L/TKV3TUL/	TK/000L	/1K/100L)	1					
R335	1-218-990-11					R431	1-218-945-11		220	5%	1/16W
		TRV110E/TRV210I	E/TRV310E/		/TR7100E)	R432	1-218-943-11	RES,CHIP	150	5%	1/16W
R336	1-218-938-11	RES,CHIP	56	5%	1/16W						
R337	1-218-938-11	RES,CHIP	56	5%	1/16W	R433	1-218-945-11	RES,CHIP	220	5%	1/16W
						R441	1-218-967-11	RES CHIP	15K	5%	1/16W
R338	1-218-965-11	RES CHIP	10K	5%	1/16W			TRV110E/TRV210E			
					1/16W	D441	•				,
R339	1-218-938-11	,	56	5%		R441	1-218-973-11		47K	5%	1/16W
R340	1-218-965-11	- / -	10K	5%	1/16W			TRV110E/TRV210E	:/TRV310E/	TR7000E/	TR7100E)
R341	1-218-938-11	RES,CHIP	56	5%	1/16W	R442	1-218-990-11	SHORT 0			
R342	1-218-990-11	SHORT 0				R443	1-218-871-11	RES,CHIP	10K	0.50%	1/16W
R343	1-216-864-11	METAL CHIP	0	5%	1/16W	R444	1-218-990-11	SHORT 0			
	1-218-990-11		O	370	171011	1			1	E0/	1/10\\\
R352						R451	1-217-671-11		1	5%	1/10W
R354	1-218-990-11					R452	1-217-671-11		1	5%	1/10W
R357	1-218-990-11					R453	1-217-671-11	METAL CHIP	1	5%	1/10W
R358	1-218-990-11	SHORT 0				R454	1-218-965-11	RES,CHIP	10K	5%	1/16W
R359	1-218-990-11	SHORT 0				R455	1-218-965-11	RES CHIP	10K	5%	1/16W
R360	1-218-955-11		1.5K	5%	1/16W	R456	1-218-965-11		10K	5%	1/16W
		•				1			IUK	370	1/1000
R361	1-218-959-11	•	3.3K	5%	1/16W	R457	1-218-990-11			=0.	
R362	1-218-959-11		3.3K	5%	1/16W	R458	1-218-985-11		470K	5%	1/16W
R363	1-218-949-11	RES,CHIP	470	5%	1/16W	R459	1-218-985-11	RES,CHIP	470K	5%	1/16W
R364	1-218-949-11	RES.CHIP	470	5%	1/16W	R460	1-218-985-11	RES,CHIP	470K	5%	1/16W
R365	1-218-951-11	•	680	5%	1/16W	R461	1-218-983-11		330K	5%	1/16W
R366	1-218-952-11	•	820	5%	1/16W	R462	1-218-977-11		100K	5%	1/16W
		•				1					
R367	1-218-951-11	- 1 -	680	5%	1/16W	R463	1-218-973-11		47K	5%	1/16W
R368	1-218-947-11	RES,CHIP	330	5%	1/16W	R464	1-218-965-11	RES,CHIP	10K	5%	1/16W
R369	1-218-961-11	RES,CHIP	4.7K	5%	1/16W	R465	1-218-965-11	RES,CHIP	10K	5%	1/16W
R370	1-218-961-11	RES.CHIP	4.7K	5%	1/16W	R466	1-218-973-11	RES,CHIP	47K	5%	1/16W
R371	1-218-961-11		4.7K	5%	1/16W	R467	1-218-961-11		4.7K	5%	1/16W
		•				1					
R372	1-218-953-11		1K	5%	1/16W	R468	1-218-965-11		10K	5%	1/16W
R373	1-218-957-11	RES,CHIP	2.2K	5%	1/16W	R470	1-218-973-11	RES,CHIP	47K	5%	1/16W
R374	1-218-957-11	RES,CHIP	2.2K	5%	1/16W	R471	1-218-946-11	RES,CHIP	270	5%	1/16W
R375	1-218-965-11	RES,CHIP	10K	5%	1/16W	R472	1-218-968-11	RES,CHIP	18K	5%	1/16W
R376	1-218-953-11		1K	5%	1/16W	R473	1-218-949-11		470	5%	1/16W
		•			1/16W	1	1-218-964-11				1/16W
R401	1-218-985-11	RES,CHIP	470K	5%		R474		- 1 -	8.2K	5%	
R402	1-218-985-11	RES,CHIP	470K	5%	1/16W			TRV110E/TRV210E			
						R474	1-218-966-11	RES,CHIP	12K	5%	1/16W
R403	1-218-977-11	RES,CHIP	100K	5%	1/16W		(EXCEPT:	TRV110E/TRV210E	/TRV310E/	TR7000E/	TR7100E)
R404	1-218-977-11	RES,CHIP	100K	5%	1/16W		•				ŕ
R405	1-218-977-11		100K	5%	1/16W	R475	1-218-968-11	RES CHIP	18K	5%	1/16W
		•				1					
R406	1-218-977-11	•	100K	5%	1/16W	R476	1-217-671-11		1	5%	1/10W
R407	1-218-953-11	RES,CHIP	1K	5%	1/16W	R477	1-217-671-11		1	5%	1/10W
						R478	1-218-977-11	RES,CHIP	100K	5%	1/16W
R408	1-218-953-11	RES,CHIP	1K	5%	1/16W	R479	1-218-959-11	RES,CHIP	3.3K	5%	1/16W
R409	1-218-990-11	SHORT 0									
R411	1-218-990-11	SHORT 0				R480	1-218-961-11	RES,CHIP	4.7K	5%	1/16W
			4701/	E0/	1/1///	1					
R413	1-218-985-11		470K	5%	1/16W	R481	1-216-023-00	METAL CHIP	82	5%	1/10W
R414	1-218-971-11	KES,CHIP	33K	5%	1/16W	R482	1-218-965-11		10K	5%	1/16W
						R483	1-218-977-11		100K	5%	1/16W
						R484	1-218-961-11	RES,CHIP	4.7K	5%	1/16W

Ref. No.	Part No.	<u>Description</u>			<u>Remarks</u>	Ref. No.	Part No.	<u>Description</u>			<u>Remarks</u>
R485	1-218-965-11	RES,CHIP	10K	5%	1/16W	R544	1-218-990-11	SHORT 0			
R486	1-218-965-11	•	10K	5%	1/16W	R546	1-218-990-11				
R487	1-218-981-11	,	220K	5%	1/16W	1040		TRV110E/TRV210E	/TD\/310E/	TD7000E	/TD7100F)
R488	1-218-981-11	•	220K 220K	5%	1/16W	R547	1-218-941-11		100	5%	1/16W
R489	1-218-965-11	•	10K	5%	1/16W	K347		TRV110E/TRV210E			
K409	1-210-900-11	RES,UNIP	IUK	376	1/1000	R548	1-218-941-11		100	5%	1/16W
D400	1 010 0/E 11	DEC CLUD	101/	E0/	1/1////	K048		TRV110E/TRV210E			
R490	1-218-965-11	,	10K	5%	1/16W	DE 40	,				,
R492	1-218-965-11	- / -	10K	5%	1/16W	R549	1-216-864-11	METAL CHIP	0	5%	1/16W
R493	1-218-977-11	•	100K	5%	1/16W	DEEO	4 04 / 005 04	CLIODT 0			
R494	1-218-961-11	•	4.7K	5%	1/16W	R552	1-216-295-91		417	=0.	
R497	1-218-977-11	RES,CHIP	100K	5%	1/16W	R553	1-218-953-11	•	1K	5%	1/16W
						R554	1-218-929-11		10	5%	1/16W
R498	1-218-990-11	SHORT 0				R555	1-218-957-11	•	2.2K	5%	1/16W
R499	1-218-990-11	SHORT 0				R556	1-218-965-11	RES,CHIP	10K	5%	1/16W
R501	1-216-864-11	METAL CHIP	0	5%	1/16W						
R502	1-216-864-11		0	5%	1/16W	R557	1-218-981-11	RES,CHIP	220K	5%	1/16W
R503	1-218-977-11	RES,CHIP	100K	5%	1/16W	R558	1-218-985-11	•	470K	5%	1/16W
						R559	1-218-985-11	RES,CHIP	470K	5%	1/16W
R504	1-218-990-11	SHORT 0				R560	1-218-957-11	RES,CHIP	2.2K	5%	1/16W
R505	1-218-941-11	RES,CHIP	100	5%	1/16W	R561	1-218-967-11	RES,CHIP	15K	5%	1/16W
R506	1-218-941-11	RES,CHIP	100	5%	1/16W						
R507	1-218-989-11	RES,CHIP	1M	5%	1/16W	R562	1-218-985-11	RES,CHIP	470K	5%	1/16W
R509	1-218-990-11	SHORT 0				R563	1-218-953-11	RES,CHIP	1K	5%	1/16W
						R564	1-218-953-11	RES,CHIP	1K	5%	1/16W
R511	1-218-990-11	SHORT 0				R565	1-218-947-11	RES,CHIP	330	5%	1/16W
R512	1-218-985-11	RES,CHIP	470K	5%	1/16W	R566	1-218-953-11	RES.CHIP	1K	5%	1/16W
R513	1-218-990-11	SHORT 0						-,-			
R514	1-218-990-11	SHORT 0				R567	1-218-989-11	RES.CHIP	1M	5%	1/16W
R515	1-218-990-11	SHORT 0				R568	1-218-965-11	•	10K	5%	1/16W
11010	. 2.0 //0	01.0111				R569	1-218-969-11	•	22K	5%	1/16W
R519	1-216-864-11	METAL CHIP	0	5%	1/16W	R570	1-218-969-11		22K	5%	1/16W
R520	1-218-990-11		O	370	17 10 00	R571	1-218-973-11	•	47K	5%	1/16W
11320		TRV110E/TRV210	=/TR\/310F/	TR7000F	/TR7100F)	10371	1-210-773-11	ICLO, OTHI	TIK	370	17 10 00
R521	1-218-990-11		_/	TIX / UUUL	/11(/100L)	R572	1-218-975-11	DEC CHID	68K	5%	1/16W
R521	1-218-933-11		22	5%	1/16W	R572	1-218-975-11	•	68K	5%	1/16W
K323		•						•			
DEAL	,	TRV110E/TRV210	E/TRV3TUE/	IR/UUUE	/1R/100E)	R574	1-218-961-11	•	4.7K	5%	1/16W
R525	1-218-990-11		-/TD\ /04.0F	TD3000F	(TD3400E)	R575	1-218-961-11	- / -	4.7K	5%	1/16W
	(EXCEPT:	TRV110E/TRV210	E/TRV3TUE/	TR/000E	/TR/TOOE)	R576	1-218-973-11	RES,CHIP	47K	5%	1/16W
DE0/	1 010 000 11	CHODE				DE 7.7	1 010 050 11	DEC OLUB	11/	F0/	4/4/14/
R526	1-218-990-11		-/TD\ /04.0F	TD3000F	(TD3400E)	R577	1-218-953-11		1K	5%	1/16W
DEGG	`	TRV110E/TRV210	E/TRV310E/	TR/000E	/TR/100E)	R601	1-218-973-11	•	47K	5%	1/16W
R530	1-218-990-11		-/		(TD=1005)	R602	1-218-965-11		10K	5%	1/16W
		TRV110E/TRV210	E/TRV310E/	TR/000E	/TR/100E)	R603	1-218-953-11		1K	5%	1/16W
R531	1-218-990-11					R604	1-218-959-11	RES,CHIP	3.3K	5%	1/16W
	`	TRV110E/TRV210	-/TRV310E/	TR7000E	/TR7100E)						
R532	1-218-990-11					R605	1-218-957-11	- 1 -	2.2K	5%	1/16W
	,	TRV110E/TRV210	E/TRV310E/	TR7000E	/TR7100E)	R607	1-218-979-11	•	150K	5%	1/16W
R533	1-218-990-11					R608	1-218-959-11		3.3K	5%	1/16W
	(EXCEPT:	TRV110E/TRV210	E/TRV310E/	TR7000E	/TR7100E)	R609	1-218-965-11		10K	5%	1/16W
						R610	1-218-953-11	RES,CHIP	1K	5%	1/16W
R534	1-218-990-11										
	•	TRV110E/TRV210	E/TRV310E/	TR7000E	/TR7100E)	R611	1-218-941-11		100	5%	1/16W
R535	1-218-990-11	SHORT 0				R612	1-218-957-11		2.2K	5%	1/16W
	(EXCEPT:	TRV110E/TRV210	E/TRV310E/	TR7000E	/TR7100E)	R613	1-218-977-11	RES,CHIP	100K	5%	1/16W
R536	1-218-990-11	SHORT 0				R614	1-218-989-11	RES,CHIP	1M	5%	1/16W
	(EXCEPT:	TRV110E/TRV210	E/TRV310E/	TR7000E	/TR7100E)	R615	1-218-977-11	RES,CHIP	100K	5%	1/16W
R537	1-218-990-11	SHORT 0									
	(EXCEPT:	TRV110E/TRV210	E/TRV310E/	TR7000E	/TR7100E)	R616	1-218-977-11	RES,CHIP	100K	5%	1/16W
R538	1-218-990-11	SHORT 0				R617	1-218-965-11	RES,CHIP	10K	5%	1/16W
	(EXCEPT:	TRV110E/TRV210	E/TRV310E/	TR7000E	/TR7100E)	R618	1-218-965-11	RES,CHIP	10K	5%	1/16W
						R619	1-218-977-11	RES,CHIP	100K	5%	1/16W
R539	1-218-990-11	SHORT 0				R620	1-218-950-11	RES,CHIP	560	5%	1/16W
	(EXCEPT:	TRV110E/TRV210	E/TRV310E/	TR7000E	/TR7100E)						
R540	1-218-990-11				- /	R621	1-218-990-11	SHORT 0			
		TRV110E/TRV210	E/TRV310E/	TR7000E	/TR7100E)	R623	1-218-952-11		820	5%	1/16W
R541	1-218-990-11				,	R624	1-218-965-11	•	10K	5%	1/16W
		TRV110E/TRV210	E/TRV310F/	TR7000F	/TR7100F)	R625	1-218-944-11	•	180	5%	1/16W
R542	1-218-990-11			5052		R626	1-218-944-11	•	180	5%	1/16W
		TRV110E/TRV210	E/TRV310F/	TR7000F	/TR7100F)		. 2.3 / 11 11			0.0	.,
R543	1-218-990-11		v O I O L /	, 000L							
		TRV110E/TRV210	E/TRV310F/	TR7000F	/TR7100F)						
	(			5552		1					

Ref. No.	Part No.	Description			Remarks	Ref. No.	Part No.	Description			Remarks
R641	1-218-973-11	RES,CHIP	47K	5%	1/16W	R711	1-218-935-11		33	5%	1/16W
R642	1-218-973-11	,	47K	5%	1/16W	R712	1-218-957-11	,	2.2K	5%	1/16W
R643	1-218-969-11	RES,CHIP	22K	5%	1/16W	R713	1-218-953-11		1K	5%	1/16W
R644	1-218-961-11	,	4.7K	5%	1/16W	R714	1-218-965-11		10K	5%	1/16W
R645	1-218-961-11	RES,CHIP	4.7K	5%	1/16W	R715	1-218-965-11	RES,CHIP	10K	5%	1/16W
R646	1-218-965-11		10K	5%	1/16W	R716	1-218-953-11	,	1K	5%	1/16W
R647	1-218-967-11	RES,CHIP	15K	5%	1/16W	R717	1-218-973-11	RES,CHIP	47K	5%	1/16W
R648	1-218-965-11	RES,CHIP	10K	5%	1/16W	R718	1-218-973-11	RES,CHIP	47K	5%	1/16W
R650	1-218-989-11	RES,CHIP	1M	5%	1/16W	R719	1-218-965-11	RES,CHIP	10K	5%	1/16W
R651	1-218-969-11	RES,CHIP	22K	5%	1/16W	R720	1-218-965-11	RES,CHIP	10K	5%	1/16W
R652	1-218-953-11	RES,CHIP	1K	5%	1/16W	R721	1-218-973-11	RES,CHIP	47K	5%	1/16W
R653	1-208-715-11		22K	0.50%	1/16W	R722	1-218-953-11		1K	5%	1/16W
R654	1-218-947-11		330	5%	1/16W				EPT:TR7000		
R655	1-218-953-11		1K	5%	1/16W	R724	1-218-953-11	•	1K	5%	1/16W
R656	1-218-953-11	,	1K	5%	1/16W				EPT:TR7000		
	1 210 700 11			0,0	.,	R725	1-218-969-11		22K	5%	1/16W
R657	1-218-949-11	RES,CHIP	470	5%	1/16W	11720	1 2 10 707 11	,	EPT:TR7000		
R659	1-218-965-11	RES,CHIP	10K	5%	1/16W	R726	1-218-969-11	•	22K	5%	1/16W
1037	1-210-703-11	ICLO, OTHI			/TR7100E)	1720	1-210-707-11	,	EPT:TR7000		
R660	1-218-979-11	DEC CHID	150K	5%	1/16W			(L/C	LI 1.11(7000)	11170001	/11K/100L)
R661	1-218-979-11		150K 150K	5%	1/16W	R727	1-218-953-11	DEC CHID	1K	5%	1/16W
R662	1-218-969-11		22K	5%	1/16W	K/Z/	1-210-933-11	- 1 -	EPT:TR7000		
K002	1-210-909-11	KL3,CITIF	ZZK	370	1/1000	R728	1-218-949-11	•	470	5%	1/16W
D//2	1-218-953-11	RES,CHIP	11/	5%	1/16W	R720	1-218-949-11	,	470	5%	1/16W
R663		,	1K					- 1 -			
R664	1-218-950-11	RES,CHIP	560	5%	1/16W	R731	1-218-949-11		470	5%	1/16W
R665	1-218-963-11		6.8K	5%	1/16W	R732	1-218-949-11	RES,CHIP	470	5%	1/16W
R666	1-218-953-11	RES,CHIP	1K	5%	1/16W	D724	1 010 071 11	DEC CLUD	221/	E0/	4/4/14/
R667	1-218-965-11	RES,CHIP	10K	5%	1/16W	R734	1-218-971-11		33K	5%	1/16W
5//6		550 01115	470	=0.		R735	1-218-960-11		3.9K	5%	1/16W
R668	1-218-949-11	RES,CHIP	470	5%	1/16W	R760	1-218-990-11		05/75)/04 05	/TD7000F	(TD7400F)
R669	1-218-972-11		39K	5%	1/16W	57/0	•	TRV110E/TRV21	OE/TRV3TOE	/TR/000E	(/TR/TOOE)
R670	1-218-965-11	RES,CHIP	10K	5%	1/16W	R762	1-218-990-11		05/75/10405	/TD=000F	(TD=1005)
			•		TR7100E)			TRV110E/TRV21			
R671	1-218-949-11	,	470	5%	1/16W	R763	1-218-977-11		100K	5%	1/16W
R672	1-218-965-11	RES,CHIP	10K	5%	1/16W /TR7100E)		(EXCEPT:	TRV110E/TRV21	0E/TRV310E	/TR/000E	/TR/100E)
			(LAGEF I.	I K / UUUL	TK/TOOL)	R763	1-218-985-11	DES CHID	470K	5%	1/16W
R673	1-218-955-11	DEC CHID	1.5K	5%	1/16W	K/03		TRV110E/TRV21			
R674	1-218-935-11	,	33	5%	1/16W	R764	1-218-977-11		100K	5%	1/16W
R675	1-218-935-11	,	33	5%	1/16W	K/04		TRV110E/TRV21			
	1-218-935-11	•				D744	`				,
R676			33	5%	1/16W	R764		RES,CHIP			
R677	1-218-935-11	RES,CHIP	33	5%	1/16W	D745	1-218-990-11	TRV110E/TRV21	UE/TRV3TUE	/ I R / UUUE	//R/100E)
D/70	1 010 005 11	DEC CLUD	22	F0/	1/1/\\	R765			0E/TDV210E	/TD7000F	(TD7100F)
R678	1-218-935-11		33	5%	1/16W	D7//	,	TRV110E/TRV21			
R679	1-218-935-11		33	5%	1/16W	R766	1-218-977-11		100K	5%	1/16W
R680	1-218-949-11		470	5%	1/16W		(	TRV110E/TRV21	UE/TRV3TUE	/ I R / UUUE	//R/100E)
R681	1-218-981-11		220K	5%	1/16W	57//	4 040 070 44	DEC OLUB	4001/	F0/	4404
R682	1-218-941-11	RES,CHIP	100	5%	1/16W	R766	1-218-978-11		120K	5%	1/16W
5.0.		550 01115		=0.		5-/-	•	TRV110E/TRV21			,
R684	1-218-961-11		4.7K	5%	1/16W	R767	1-218-977-11		100K	5%	1/16W
R685	1-218-961-11		4.7K	5%	1/16W		,	TRV110E/TRV21			,
R686	1-218-989-11	- / -	1M	5%	1/16W	R767	1-218-978-11		120K	5%	1/16W
R687	1-218-937-11		47	5%	1/16W		•	TRV110E/TRV21			•
R689	1-218-990-11	SHORT 0				R768	1-208-715-11	RES,CHIP	22K	0.50%	1/16W
							`	TRV110E/TRV21			,
R701	1-218-957-11		2.2K	5%	1/16W	R769	1-208-935-11	,	100K		1/16W
R702	1-218-969-11	RES,CHIP	22K	5%	1/16W		(	TRV110E/TRV21	0E/TRV310E	/TR7000E	/TR7100E)
R703	1-218-969-11	RES,CHIP	22K	5%	1/16W						
R704	1-218-957-11	RES,CHIP	2.2K	5%	1/16W	R769	1-208-947-11	RES,CHIP	330K	0.50%	1/16W
R705	1-218-973-11	RES,CHIP	47K	5%	1/16W		(EXCEPT:	TRV110E/TRV21	0E/TRV310E	/TR7000E	/TR7100E)
						R770	1-218-952-11	RES,CHIP	820	5%	1/16W
R706	1-218-936-11	RES,CHIP	39	5%	1/16W	R801	1-218-985-11	RES,CHIP	470K	5%	1/16W
R707	1-218-935-11	RES,CHIP	33	5%	1/16W	R802	1-218-953-11	RES,CHIP	1K	5%	1/16W
R708	1-218-973-11		47K	5%	1/16W	R804	1-218-953-11		1K	5%	1/16W
R709	1-218-957-11	RES,CHIP	2.2K	5%	1/16W			(EXC	EPT:TR7000	/TR7000E	/TR7100E)
R710	1-218-936-11		39	5%	1/16W			•			•

Ref. No.	Part No.	<u>Description</u>			<u>Remarks</u>	Ref. No.	Part No.	Description			<u>Remarks</u>
R805	1-218-953-11	RES,CHIP	1K	5%	1/16W	R862	1-218-989-11	•	1M	5%	1/16W
Koos	1-210-703-11	,	PT:TR7000/T			R863	1-218-989-11		1M	5%	1/16W
R806	1-218-957-11	RES,CHIP	2.2K	5%	1/16W	R864	1-218-953-11	- 1 -	1K	5%	1/16W
R807	1-218-959-11	RES,CHIP	3.3K	5%	1/16W	R865	1-218-953-11		1K	5%	1/16W
1007	1-210-737-11	KL3,CIIII	(TR7000/T			R866	1-218-973-11		47K	5%	1/16W
R808	1-218-945-11	RES,CHIP	220	5%	1/16W	1000	1-210-773-11	ICLO,CITII	4710	370	1/1000
R809	1-218-977-11	RES,CHIP	100K	5%	1/16W	R867	1-218-985-11	DEC CHID	470K	5%	1/16W
1009	1-210-7//-11	KL3,CITIF	TOOK	370	1/1000	R868	1-218-985-11		470K 470K	5%	1/16W
R810	1-218-961-11	RES,CHIP	4.7K	5%	1/16W	R869	1-218-985-11		470K 470K	5%	1/16W
R811	1-218-973-11	RES,CHIP	4.7K 47K	5%	1/16W	R870	1-218-985-11		470K 470K	5%	1/16W
KOII	1-210-9/3-11	,	47K PT:TR7000/T			R871	1-218-985-11		470K 470K	5%	1/16W
R812	1-218-977-11	RES,CHIP	100K	5%	1/16W	K071	1-210-900-11	KL3,CITIF	470K	370	17 10 00
R813	1-218-985-11	•	470K	5%	1/16W	R872	1-218-989-11	DEC CUID	1M	5%	1/16W
R814	1-218-985-11	RES,CHIP	470K 470K	5%	1/16W	R873	1-218-953-11		1K	5%	1/16W
K014	1-210-700-11	KL3,CITIF	470K	370	1/1000	R874	1-218-953-11		1K	5%	1/16W
R815	1-218-985-11	RES,CHIP	470K	5%	1/16W	R875	1-218-953-11		1K	5%	1/16W
R816	1-218-985-11	RES,CHIP	470K 470K	5%	1/16W	R876	1-219-570-11		10M	5%	1/16W
R817	1-218-985-11	•	470K 470K	5%	1/16W	K070	1-219-370-11	KL3,CITIF	TOIVI	376	1/1000
R818	1-218-985-11	•	470K 470K	5%	1/16W	R877	1-218-985-11	DEC CUID	470K	5%	1/16W
R819	1-218-985-11	•	470K 470K	5%	1/16W	R878	1-218-985-11		470K 470K	5%	1/16W
KOIA	1-210-900-11	RES,UNIP	470K	370	1/1000	R879	1-218-977-11	- 1 -	470K 100K	5%	1/16W
R820	1-218-973-11	RES,CHIP	47K	5%	1/16W	R880	1-218-977-11	- 1 -	100K	5%	1/16W
R821	1-218-977-11	•	100K	5%	1/16W	R881	1-218-977-11		100K 100K	5%	1/16W
R822	1-218-985-11	,	470K	5%	1/16W	Kooi	1-210-9//-11	KES,CHIP	TUUK	370	1/1000
		- / -				D002	1-218-985-11	DEC CUID	470V	E0/	1/14\\\
R823	1-218-965-11	•	10K	5%	1/16W	R882	1-218-985-11	- 1 -	470K	5%	1/16W
R824	1-218-958-11	RES,CHIP	2.7K	5%	1/16W	R883		- 1 -	470	5%	1/16W 1/16W
חמר	1 010 050 11	DEC CLUD	11/	F0/	1/1/\\	R884	1-218-953-11		1K	5%	
R825	1-218-953-11	RES,CHIP	1K	5%	1/16W	DOOL	1 210 052 11		PT:TR7000/		
R826	1-218-953-11	•	1K	5%	1/16W 1/16W	R885	1-218-953-11		1K	5%	1/16W
R827	1-218-953-11	•	1K	5%		Door	1 010 050 11	,	PT:TR7000/		,
R828	1-218-953-11		1K	5%	1/16W	R886	1-218-953-11	•	1K	5%	1/16W
R829	1-218-953-11	RES,CHIP	1K	5%	1/16W			(EXCE	PT:TR7000/	R/000E/	TR/100E)
DOOO	1 210 052 11	DEC CLUD	11/	F0/	1/1/\\	D007	1 210 052 11	DEC CLUD	11/	F0/	1/1/\\
R830	1-218-953-11	RES,CHIP	1K	5%	1/16W	R887	1-218-953-11		1K	5%	1/16W
R831	1-218-953-11	RES,CHIP	1K	5%	1/16W	R888	1-218-985-11		470K	5%	1/16W
R832	1-218-985-11	RES,CHIP	470K	5%	1/16W	R889	1-218-953-11		1K	5%	1/16W
R833	1-218-989-11		1M	5%	1/16W	R890	1-218-985-11		470K	5%	1/16W
R834	1-208-943-11	RES,CHIP	220K	0.50%	1/16W	R891	1-218-985-11	RES,CHIP	470K	5%	1/16W
חמר	1 200 042 11	DEC CLUD	2201/	0.500/	1/1/\\	Doos	1 210 052 11	DEC CLUD	11/	F0/	1/1/\\
R835	1-208-943-11	RES,CHIP	220K	0.50%	1/16W	R893	1-218-953-11		1K	5%	1/16W
R836	1-218-985-11	RES,CHIP	470K	0.50%	1/16W	R894	1-218-953-11		1K	5%	1/16W
R837	1-218-985-11	•	470K	0.50%		DOOF	1 010 077 11	`	PT:TR7000/		,
R838	1-218-977-11		100K	5%	1/16W	R895	1-218-977-11		100K	5%	1/16W
R839	1-218-977-11	RES,CHIP	100K	5%	1/16W	R896	1-218-941-11		100	5%	1/16W
D0.40	1 010 077 11	DEC CLUD	1001/	F0/	1/1/\\	R901	1-218-953-11	RES,CHIP	1K	5%	1/16W
R840	1-218-977-11		100K	5%	1/16W	Door	1 010 077 11	DEC CLUD	1001/	E0/	1/1/14/
R843	1-218-953-11	,	1K	5%	1/16W	R902	1-218-977-11		100K	5%	1/16W
R844	1-218-953-11		1K	5%	1/16W	R903	1-218-977-11	- 1 -	100K	5%	1/16W
R845	1-218-953-11		1K	5%	1/16W	R904	1-218-977-11		100K	5%	1/16W
R846	1-218-953-11	RES,CHIP	1K	5%	1/16W	R905	1-218-977-11		100K	5%	1/16W
D0.47	1 210 052 11	DEC CLUD	11/	E0/	1/1////	R906	1-218-961-11	RES,CHIP	4.7K	5%	1/16W
R847	1-218-953-11		1K	5%	1/16W	D007	1 010 057 11	DEC CLUD	2 21/	F0/	1/1////
R848	1-218-977-11		100K	5%	1/16W	R907	1-218-957-11		2.2K	5%	1/16W
R849	1-218-953-11	- 1 -	1K	5%	1/16W	R908	1-218-969-11		22K	5%	1/16W
R850	1-218-953-11		1K	5%	1/16W	R909	1-218-969-11		22K	5%	1/16W
R851	1-218-953-11	RES,CHIP	1K	5%	1/16W	R910	1-218-977-11		100K	5%	1/16W
DOEO	1 210 000 11	DEC CLUD	11.4	F0/	1/1/\\	R911	1-218-957-11	RES,CHIP	2.2K	5%	1/16W
R852	1-218-989-11		1M	5%	1/16W	D010	1 010 0/5 11	DEC CLUD	101/	E0/	1/1/14/
R853	1-218-989-11		1M	5%	1/16W	R912	1-218-965-11		10K	5%	1/16W
R854	1-218-989-11	,	1M	5%	1/16W	R913	1-218-965-11		10K	5%	1/16W
R855	1-218-989-11		1M	5%	1/16W	R914	1-218-977-11		100K	5%	1/16W
R856	1-218-989-11	RES,CHIP	1M	5%	1/16W	R915	1-218-973-11		47K	5%	1/16W
DOE 3	1 010 000 11	DEC CLUD	11.4	F0/	1/1/\\	R916	1-218-977-11	RES,CHIP	100K	5%	1/16W
R857	1-218-989-11		1M	5%	1/16W	5047	4 040 077 11	DEC CLUB	1001/	E0.	4/4/14/
R858	1-218-989-11		1M	5%	1/16W	R917	1-218-977-11		100K	5%	1/16W
R859	1-218-953-11	,	1K	5%	1/16W	R918	1-218-985-11		470K	5%	1/16W
R860	1-218-989-11		1M	5%	1/16W	R919	1-218-985-11		470K	5%	1/16W
R861	1-218-953-11	RES,CHIP	1K	5%	1/16W	R920	1-218-973-11		47K	5%	1/16W
						R921	1-218-973-11	RES,CHIP	47K	5%	1/16W

Ref. No.	Part No.	<u>Description</u>			<u>Remarks</u>	Ref. No.	Part No.	<u>Description</u>			<u>Remarks</u>
R922	1-218-973-11	RES,CHIP	47K	5%	1/16W			< VIBERATOR >			
R923	1-218-943-11	RES,CHIP	150	5%	1/16W			< VIDERATOR >			
R924	1-218-945-11	•	220	5%	1/16W	X251	1 760 320 11	VIBRATOR, CRYS	TAL (28.63)	(3N/H2)	
R930		SHORT 0	220	370	17 1000	\ \Z31			•	,	/TD7100F)
	1-218-990-11		1001/	Ε0/	1/16W	VOE1	`	TRV110E/TRV210E			/ I K / TOUE)
R931	1-218-977-11	RES,CHIP	100K	5%	1/16//	X251		VIBRATOR, CRYS	•	,	/TD7100F)
Dogo	1 010 077 11	DEC OLUD	1001/	F0/	4/4/14/	V201	,	TRV110E/TRV210E			/TR/TUUE)
R932	1-218-977-11	RES,CHIP	100K	5%	1/16W	X301		VIBRATOR, CRYS	•	,	
R933	1-218-977-11	RES,CHIP	100K	5%	1/16W	X501		VIBRATOR, CRYS	•	•	(TD=4005)
R934	1-218-977-11	,	100K	5%	1/16W		,	TRV110E/TRV210E			/TR7100E)
R935	1-218-990-11	SHORT 0				X501	1-767-586-21	VIBRATOR, CRYS	TAL (27MH	<u>z</u> )	
R951	1-218-990-11	SHORT 0					(EXCEPT:	TRV110E/TRV210E	/TRV310E/	TR7000E	/TR7100E)
R952	1-218-990-11	SHORT 0				X601	1-781-309-21	VIBRATOR, CRYS	TAL (40.5M	Hz)	
R953	1-218-990-11	SHORT 0				X801	1-767-450-11	VIBRATOR, CERA	MIC (20MH	z)	
R954	1-218-990-11	SHORT 0				X802	1-760-458-21	VIBRATOR, CRYS	TAL (32.768	3kHz)	
R955	1-218-990-11	SHORT 0				X901	1-760-655-41	VIBRATOR, CRYS	TAL (20MH	z)	
R956	1-218-990-11	SHORT 0							,	,	
11700	. 2.0 ,,0	00									
R957	1-218-990-11	SHORT 0					A-7073-876-A	VF-126 BOARD, C	OMPLETE		
R958	1-218-990-11	SHORT 0					71 7070 070 71		5/TR7000/	DZOOF	/TD7100F)
R959	1-218-990-11	SHORT 0						******		IV/OOOL	/11(/100L)
										F.N 100	200 Carias)
R960	1-218-990-11	SHORT 0							(Re	1.100.:100	000 Series)
R961	1-218-990-11	SHORT 0						CADACITOD			
D0/0	4 040 000 44	CLIODT 0						< CAPACITOR >			
R962	1-218-990-11	SHORT 0				_					
R963	1-218-990-11	SHORT 0				C4502		TANTAL. CHIP	10uF	20%	6.3V
R964	1-218-990-11	SHORT 0				C4503	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
R965	1-218-990-11	SHORT 0				C4504	1-135-149-21	TANTALUM CHIP	2.2uF	20%	10V
R966	1-218-990-11	SHORT 0				C4505		CERAMIC CHIP	0.01uF	10%	25V
						C4506	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
R967	1-218-990-11	SHORT 0									
R968	1-218-990-11	SHORT 0				C4507	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
R969	1-218-990-11	SHORT 0				C4508		CERAMIC CHIP	4.7uF	10%	10V
R970	1-218-990-11	SHORT 0				C4509		TANTALUM CHIP		20%	6.3V
R972	1-218-990-11	SHORT 0				C4510		TANTALUM CHIP		20%	6.3V
11772	1-210-770-11		EPT:TR7000	n/TD7nnnE	/TD7100F)	C4510		TANTALUM CHIP		20%	6.3V
		(LXC	LI 1.11(700)	0/ 11( / 000L	/11(/100L)	04311	1-133-101-21	TAINTALOW CITII	4.7ui	2070	0.5 v
R973	1 210 000 11	SHORT 0 (TR	7000/TR70	OOE/TD710	)OE)	C4512	1 142 070 11	CERAMIC CHIP	0.01uF	10%	25V
	1-218-990-11										
R974	1-218-953-11	,	1K	5%	1/16W	C4513		CERAMIC CHIP	0.01uF	10%	25V
R975	1-218-965-11	RES,CHIP	10K	5%	1/16W	C4514		TANTAL. CHIP	4.7uF	20%	16V
R976	1-218-977-11	RES,CHIP	100K	5%	1/16W	C4515	1-162-970-11		0.01uF	10%	25V
R977	1-218-965-11	RES,CHIP	10K	5%	1/16W	C4516	1-164-505-11	CERAMIC CHIP	2.2uF		16V
					(TR7000)						
						C4601		CERAMIC CHIP	0.01uF	10%	25V
R977	1-218-969-11	RES,CHIP	22K	5%	1/16W	C4602	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
				(TR7000E	/TR7100E)	C4603	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V
R977	1-218-973-11	RES,CHIP	47K	5%	1/16W	C4604	1-162-967-11	CERAMIC CHIP	0.0033uF	10%	50V
(	EXCEPT:TRV110E	TRV210E/TRV3	10E/TR700	0/TR7000E	/TR7100E)	C4605	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
R977	1-218-974-11	RES,CHIP	56K	5%	1/16W						
			(TRV110E	E/TRV210E	/TRV310E)	C4606	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
R978	1-218-975-11	RES.CHIP	68K	5%	1/16W	C4607		TANTAL. CHIP	10uF	20%	10V
11770	. 2.0 // 0 //				/TRV310E)	C4608		CERAMIC CHIP	1000PF	5%	50V
R978	1-218-977-11	DES CHID	100K	5%	1/16W	C4609		CERAMIC CHIP	1000F	5%	50V
11770	1-210-7//-11	•	PT:TRV110E			C4610		TANTAL. CHIP	100F	20%	6.3V
		(EXCE	PI.IKVIIUI	_/ I K V Z I U E	/IRVSIUE)	C4010	1-130-209-11	TANTAL, CHIP	TOUF	20%	0.37
DOZO	1 210 000 11	CHODT 0				C1/11	1 142 070 11	CERAMIC CHIP	0.01	100/	25V
R979	1-218-990-11			=0.4		C4611			0.01uF	10%	
R980	1-218-961-11	RES,CHIP	4.7K	5%	1/16W	C4612		CERAMIC CHIP	0.1uF	10%	16V
R981	1-218-953-11	RES,CHIP	1K	5%	1/16W	C4613		TANTAL. CHIP	6.8uF	20%	20V
R982	1-218-953-11		1K	5%	1/16W	C4614		CERAMIC CHIP	2200PF	5%	16V
R983	1-217-671-11	METAL CHIP	1	5%	1/10W	C4615	1-107-826-91	CERAMIC CHIP	0.1uF	10%	16V
R984	1-217-671-11	METAL CHIP	1	5%	1/10W	C4617	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
R985	1-218-990-11	SHORT 0				C4618	1-135-181-21	TANTALUM CHIP	4.7uF	20%	6.3V
						C4619		CERAMIC CHIP	0.022uF	10%	25V
		< THERMISTOR	? >			C4620		CERAMIC CHIP	0.01uF	10%	25V
						C4621		CERAMIC CHIP	0.33uF		16V
TH401	1-809-360-21	THERMISTOR,	NTC (2125)								
			( 0)			1					

#### VF-126 VF-129

Ref. No.	Part No.	<u>Description</u>			<u>Remarks</u>	Ref. No.	Part No.	<u>Description</u>			<u>Remarks</u>
C4622		CERAMIC CHIP	0.01uF	10%	25V	R4521	1-216-809-11		100	5%	1/16W
C4623 C4626		CERAMIC CHIP	1uF	10%	10V 16V	R4524		- 1 -	330K	0.50%	1/16W 1/16W
C4626 C4801		CERAMIC CHIP CERAMIC CHIP	1uF 0.01uF	10% 10%	25V	R4525 R4602			18K 39K	5%	1/16W
C4802		TANTAL. CHIP	47uF	20%	10V	R4604			15K	5%	1/16W
C4803	1-115-566-11	CERAMIC CHIP	4.7uF	10%	10V	R4605	1-216-833-11	METAL CHIP	10K	5%	1/16W
<b>△</b> C4804		CERAMIC CHIP	0.0022uF	10%	630V	R4606			180K		1/16W
						R4607			33K	5%	1/16W
		< CONNECTOR >				R4608 R4609			1.2K 0	5% 5%	1/16W 1/16W
		CONNECTOR, FFO				114007	1 210 004 11	WEINE OITH	Ü	370	171000
CN4602	1-573-356-21	CONNECTOR, FFO	C/FPC 16P			R4610			1K 68K	5% 5%	1/16W 1/16W
		< DIODE >				R4611 R4612			56K	5% 5%	1/16W
5.4404	0.740.400.00	DIODE 170/0 01	T0.			R4615			0	5%	1/16W
D4601 D4602		DIODE 1T369-01- DIODE MA6S121-				R4616	1-218-887-11	RES,CHIP	47K	0.50%	1/16W
△D4802		DIODE 1SS370(T				R4617	1-216-843-11	METAL CHIP	68K	5%	1/16W
			·			R4618	1-216-850-11	METAL CHIP	270K	5%	1/16W
		< IC >				R4619			0	5%	1/16W
IC4501	0 750 544 45	IC CXA8115AR-T	4			R4620 R4621	1-216-838-11 1-216-833-11		27K 10K	5% 5%	1/16W 1/16W
		IC M62376GP-65				K4021	1-210-033-11	WILIAL CITIF	IUK	370	1/1000
IC4601		IC MB3789PFV-G				R4622			150K	5%	1/16W
		IC CXD2458AR-T				R4623			47K	5%	1/16W
IC4603	8-759-580-26	IC NJM2130F(TE	2)			R4624 R4625			180K 39K	5% 5%	1/16W 1/16W
		< COIL >				R4626			330K	5%	1/16W
L4501	1-414-754-11		10uH			R4627			270K	5%	1/16W
L4502 L4601	1-414-756-11 1-414-756-11		47uH 47uH			R4629 R4630			22K 470K	5% 5%	1/16W 1/16W
L4601	1-414-756-11		47uH			R4634			100	5%	1/16W
L4603	1-412-949-21		6.8uH			R4635			47K	5%	1/16W
1.4004	4 440 004 44	INDUCTOR OUR	47.11			D4/0/	4 04 / 045 44	METAL OLUB	4001/	F0/	4/4/14/
L4801 L4802		INDUCTOR CHIP				R4636 R4637			100K 100K	5% 5%	1/16W 1/16W
L+002	1-412-027-11	INDOCTOR CITI	Touri			R4801			33K	5%	1/16W
		< FLUORESCENT	INDICATOR	? >				TDANCEODA	IED.		
<b>△</b> ND4801	1-517-414-71	FLUORESCENT T	UBE (0.55 II	NCH)				< TRANSFORM			
		< TRANSISTOR >				<u></u> 14801	1-426-848-51	TRANSFORME	R, INVERTER		
Q4601 Q4602	8-729-042-29 8-729-037-61	TRANSISTOR RN TRANSISTOR RN	`	,				VF-129(N) BO/ 10/TRV110P/TR			TD\/210D\
Q4603	8-729-045-84	TRANSISTOR RN					(1103/1101	******		111111111111111111111111111111111111111	11(13101)
<b>△</b> Q4801	8-729-039-24	TRANSISTOR FX2	216-TL1				A-7073-855-A	VF-129(P) BOA			(TD) (04.0E)
		< RESISTOR >						******	/TRV110E) ******		(TRV310E)
				=6:					(F	Ref.No.:60	000 Series)
R4501 R4503	1-216-864-11 1-216-837-11	METAL CHIP METAL CHIP	0 22K	5% 5%	1/16W 1/16W			< CAPACITOR	_		
R4503 R4504	1-216-837-11	METAL CHIP	22K 22K	5% 5%	1/16W						
R4505	1-216-839-11		33K	5%	1/16W	C901	1-107-854-11	TANTAL. CHIP	68uF	20%	6.3V
R4509	1-216-843-11	METAL CHIP	68K	5%	1/16W	C902	1-163-038-91	CERAMIC CHI			25V
R4510	1-216-839-11	WETAI CHID	33K	5%	1/16W	C903 C904	1-135-145-11 1-162-965-11	TANTALUM CH		10% 10%	35V 50V
R4510	1-216-840-11	METAL CHIP	39K	5%	1/16W	C904	1-102-905-11	TANTAL. CHIP	33uF	20%	6.3V
R4512	1-216-853-11	METAL CHIP	470K	5%	1/16W	0,00		.,	ooui	2070	0.01
R4513	1-216-840-11		39K	5%	1/16W	C906	1-162-638-11				16V
R4514	1-216-843-11	METAL CHIP	68K	5%	1/16W	C907	1-104-563-11	FILM CHIP	0.1uF	5%	16V
R4515	1-216-839-11	METAL CHID	33K	5%	1/16W	C908 C909	1-162-920-11 1-163-009-11	CERAMIC CHI		5% 10%	50V 50V
R4515	1-216-839-11	METAL CHIP	33K 47K	5% 5%	1/16W	£ C909	1-163-009-11			5%	50V 50V
R4517	1-216-840-11	METAL CHIP	39K	5%	1/16W		02 020 11	52. 3 WIIO OIIII	3.00 T ul	370	
R4518	1-216-809-11		100	5%	1/16W						
R4519	1-216-809-11	METAL CHIP	100	5%	1/16W	ا ا	Note :		Note :		
							The components		Les compos		
							mark ∆ or dotted ∆ are critical for		une marque pour la sécu		critiques
							Replace only wit		Ne les remp	lacer que	
					6-	40 l	specified.		pièce portant	le numéro	spécifié.

Ref. No.	Part No.	Description			Remarks	Ref. No.	Part No.	Description			Remarks
		•	0.00/0	F0/					11/	Ε0/	
△C911 C912		CERAMIC CHIP TANTAL. CHIP	0.0068uF 68uF	5% 20%	50V 6.3V	R927 R928	1-216-821-11 1-216-827-11		1K 3.3K	5% 5%	1/16W 1/16W
C912		TANTAL CHIP		10%	35V	R929	1-216-821-11		3.3K 1K	5% 5%	1/16W
C914		TANTAL CHIP	1.5uF	20%	35V	R930	1-216-791-11		3.3	5%	1/16W
C915		CERAMIC CHIP	0.022uF	10%	25V	R931	1-217-671-11		1	5%	1/10W
0710	1 100 007 11	ozia iviio oriii	0.02241	1070	201	10701	1 217 071 11	WEINE OIL	•	070	171000
C916	1-164-611-11	CERAMIC CHIP	0.001uF	10%	500V	R932	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
		< CONNECTOR >						< VARIABLE R	ESISTOR >		
CN901	1 572 506 //1	CONNECTOR, FP	C (NIONI 7IE)	1D		RV903	1 220 052 11	RES, ADJ, CER	MET 470		
* CN902		PIN, CONNECTOR	,	41		RV904		RES, ADJ, CER			
0.1702	. 000 007 11	,	(0.11.2) 11			,	. 200 001 11	1120771207 02.1			
		< DIODE >						< TRANSFORM	IER >		
5004		51055 5544001				A T004	=	TD	5 4001/ 511/5		
D901		DIODE PR1102W				<b> ⚠</b> T901	1-453-124-11	TRANSFORME	R ASSY, FLYE	3ACK	
D903	8-719-073-01	DIODE MA111-(k	(8).50					< CRT SOCKET			
		< IC >						CINT SOURL			
						<b> ∆</b> W901	1-540-019-21	SOCKET ASSY	CRT		
IC901	8-759-196-14	IC BA7149F-E2									
		< COIL >						MISCELLANEC			
L901	1 412 021 11	INDUCTOR CHIP	47uU					ale	c skc		
L901 L902	1-410-387-11	INDUCTOR CHIP				7	1_673_118_21	FP-76 FLEXIBL	E BOARD		
1402 1402 1402		COIL, FERRITE (				8		SWITCH BLOC		(MF-9500	))
<u> </u>	1 111 077 11	ooil, i littii (i	ileo)			9		TERMINAL BO		•	')
		< TRANSISTOR >	>			15		FP-49 FLEXIBL			
						16	1-783-240-11	CABLE, FLEXIE	BLE FLAT (FF	C-236)	
Q901	8-729-230-63	TRANSISTOR 2S	D1819A-QR	S-TX							
Q902		TRANSISTOR 2S				19		FP-77 FLEXIBL			
Q903		TRANSISTOR 2S				51		SWITCH BLOC		(PS-9500	0)
Q904	8-729-230-63	TRANSISTOR 2S	D1819A-QR	S-TX		56		FP-62 FLEXIBL		<b></b>	
		DEGLOTOD				101		SWITCH BLOC		(PS-9500	0)
		< RESISTOR >				103	1-6/2-668-21	FP-62 FLEXIBL	.E BOARD		
R901	1-216-817-11	METAL CHID	470	5%	1/16W	151	1 /10 27/ 11	SWITCH BLOC	K CONTDOL	(DS 0500	))
R902	1-216-817-11		470	5%	1/16W	153		FP-62 FLEXIBL		(1 3-7300	) )
R903	1-216-057-00		2.2K	5%	1/10W	216		SWITCH BLOC		(SS-8500	))
R904	1-216-833-11		10K	5%	1/16W	222		FILTER, EMI (C		(	-,
R905	1-216-822-11	METAL CHIP	1.2K	5%	1/16W			(TRV110E:AE	P,UK,EE,NE,F	≀U/TRV21	0E:AEP,UK/
									310E:AEP,UK		,
R906	1-216-823-11	METAL CHIP	1.5K	5%	1/16W	224	1-475-617-51	SWITCH BLOC			
R907	1-216-845-11	METAL CHIP	100K	5%	1/16W			(TRV110E:AE			
R908	1-216-852-11	METAL CHIP METAL CHIP	390K	5%	1/16W			IRV	310E:AEP,UK	./1R/000E	E/TR/100E)
R909 R910	1-216-833-11 1-216-835-11	METAL CHIP	10K 15K	5% 5%	1/16W 1/16W	224	1-475-617-71	SWITCH BLOC	K CONTROL	(EK-8500	))
1(710	1-210-033-11	WEIAE OIII	1310	370	1/1000	224		EPT:TRV110E:AE		•	•
R911	1-216-160-00	RES,CHIP	27	5%	1/8W		(EXOL		310E:AEP.UK		
R912	1-216-857-11	METAL CHIP	1M	5%	1/16W	226	1-672-672-11	FP-45 FLEXIBL			. ,
R915	1-218-879-11	RES,CHIP	22K	0.50%		226		FP-45 FLEXIBL	•		•
			T:TRV110E/			227		CONNECTOR,E	•		,
R916	1-218-881-11	RES,CHIP	27K		1/16W	228	1-672-665-11	FP-54 FLEXIBL	E BOARD	•	
_			(TRV110E/		-						
R917	1-218-891-11		68K		1/16W	231		FP-78 FLEXIBL			
		(EXCEP	T:TRV110E/	IRV210E	/TRV310E)	236	1-469-363-11	FILTER, EMI (N	,	)  /TD\/04	0F. A F D L IIV '
D017	1 210 002 11	DEC CHID	0.217	0.500/	1/1////			(TRV110E:AE			
R917	1-218-893-11	KES,UHIP	82K (TRV110E/		1/16W (TRV/310F)	254	1_050 210 11	HARNESS (DP	'310E:AEP,UK -74)	./ I K / UUUE	_/ I K / IUUE)
R918	1-216-829-11	METAL CHIP	4.7K	5%	1/16W	234	1-909-510-11	•	-74) /103/TRV110	/TR\/110F	/TRV/110P)
R919	1-216-843-11	METAL CHIP	68K	5%	1/16W	256	1-668-963-21	FP-642 FLEXIE		TIVITUL	.,
R920	1-216-837-11	METAL CHIP	22K	5%	1/16W	250	. 550 705-21		103/TRV110	/TRV110F	(TRV110P)
R921	1-216-795-11		6.8	5%	1/16W	306	1-668-963-41	FP-642 FLEXIE			,
							(TRV203/TRV21			E/TRV310	)P/TRV315)
R922	1-216-850-11	METAL CHIP	270K	5%	1/16W						•
R923	1-216-857-11	METAL CHIP	1M	5%	1/16W						
R924	1-216-862-11	•	2.7M	5%	1/16W						
R925	1-216-862-11	RES,CHIP	2.7M	5%	1/16W		Note :		Note :		
R926	1-216-821-11	METAL CHIP	1K	5%	1/16W		The components		Les compos		
							mark $\triangle$ or dotted		une marque	e \land sont	
									pour la sécu Ne les rem		e nar une
					_		specified.	n part number	pièce portan		
					6-	41 L	• • •		,,		

D.C.N.	D. I.N.	December 1	D I.	L D. C.N.	D. IN.	December 1	D I .
Ref. No.	Part No.	<u>Description</u>	<u>Remarks</u>	Ref. No.	<u>Part No.</u>	<u>Description</u>	<u>Remarks</u>
362	1-790-412-11	CABLE, FLEXIBLE FLAT (FFO (EXCEPT:TRV315/TR7000				ACCESSORIES *********	
410	1-672-662-11	FP-47 FLEXIBLE BOARD	(TD 7000F (TD 7400F)		4 475 444 04		DIAT OLA
460	1_750_155_01	(1RV315/1R7000 FILTER BLOCK, OPTICAL	/TR7000E/TR7100E)	$\triangle$	1-475-141-61	REMOTE COMMANDER ADAPTOR. AC	R RMT-814
400		TRV110E/TRV210E/TRV310E	/TR7000E/TR7100E)	7:1		ADAPTOR, CONVERSIO	N 2P
460		FILTER BLOCK, OPTICAL	,			(TRV110:JE/	TRV310:JE/TRV310E:JE)
		TRV110E/TRV210E/TRV310E	/TR7000E/TR7100E)		1-569-008-21	ADAPTOR, CONVERSIO	
760	1-658-213-11	FP-355 FLEXIBLE BOARD				TRV3	TRV110E:E,HK/TRV110P/ 310:E,HK/TRV310E:E,HK)
762		FP-221 FLEXIBLE BOARD			1-573-291-11	ADAPTOR, CONVERSIO	
764		FP-356 FLEXIBLE BOARD					NE,RU/TRV210E:AEP,UK/
803 817		FP-38 FLEXIBLE BOARD FP-220 FLEXIBLE BOARD				TRV3TUE:AEF	P, UK/TR7000E/TR7100E)
D001		DIODE GL453		<u>^</u> *	1-575-131-11	CORD, POWER (TRV11	0·BR)
Door	0 7 10 000 12	DIODE GE 100		<u>*</u> *		CORD, POWER	0.511)
IC1401	A-7030-821-A	CCD BLOCK ASSY (CCD IM	AGER)			,	DE:E/TRV110P/TRV310:E/
		T:TRV110E/TRV210E/TR310E				•	TRV310E:E/TRV310P)
IC2401	A-7030-885-A	CCD BLOCK ASSY (CCD IM	,			AV CONNECTING CABL	E (1.5M)
		(TRV110E/TRV210E/TR310E	,	<u> </u>	1-690-827-11	CORD SET, POWER	
J001		JACK, ULTRA SMALL 1P (L	ANC)				EE,NE,RU/TRV210E:AEP/
	1-517-866-11	MODULE. CRYSTAL INDICA	TION	<u> </u>	1 606 910 11	CORD, POWER (TRV11	/TR7000E:AEP/TR7100E)
LUDSUI		03/TRV110/TRV110E:E,HK,A		7!\	1-090-019-11	COND, FOWER (INVIII	UE.AUS/TRVSTUE.AUS)
	(1110	00/1111/110/1111/1102.2,1111,/	,500,514,52,7114711017	$\triangle$	1-775-843-21	CORD, POWER (WITH F	FILTER)
LCD901	1-803-357-21	MODULE, CRYSTAL INDICA	TION				RV310É:UK/TR7000E:UK)
			E:AEP,UK,EE,NE,RU)	<u> </u>	1-782-476-11	CORD, POWER	•
LCD901	1-803-032-21	MODULE, CRYSTAL INDICA					RV210E:CN/TRV310E:CN)
1.00004	1 000 050 01	MODULE ODVOTAL INDIOA	(TRV310/TRV310P)	<u> </u>		CORD, POWER	TDV/04.0-111//TDV/04.0E-111/
LUD901	1-803-359-21	MODULE, CRYSTAL INDICA	0/TRV210E/TRV315)	$\triangle$		CORD, POWER 2P	TRV310:HK/TRV310E:HK)
I CD901	1-803-360-21	MODULE, CRYSTAL INDICA		\(\frac{2!\dama}{!}\)	1-790-073-11	,	/TRV310:JE/TRV310E:JE)
LODGOT	1 000 000 21		RV310:US/TRV310E)	$\triangle$	1-790-107-22	CORD, POWER	1111010.02/11110102.02/
M901	A-7048-904-A	DRUM BLOCK ASSY (DKH-					JS,CND/TRV203/TRV210/
						TRV3	310:US/TRV315/TR7000)
M902		MOTOR, DC SCE12A/C-NP					
M903	X-3945-401-1	, - ( -	G)		3-054-045-01	VIDEO, HOW TO TAKE	TD\ (440 H0 /TD\ (040 H0 /
M905 M906	1-763-262-11 1-763-046-11	MOTOR, FOCUS STEPPING MOTOR, ZOOM STEPPING					/TRV110:US/TRV210:US/ /TRV315:US/TR7000:US)
	1-542-312-11	MICROPHONE (L)			3-742-854-01	LID, BATTERY CASE (fo	,
WIIOOOT	1 012 012 11	WHOTIOI HOIVE (E)				MANUAL, INSTRUCTIO	
MIC902	1-542-312-11	MICROPHONE (R)					RV103/TRV110:US,CND)
<b>△</b> ND901	1-517-751-31	TUBE, FLUORESCENT, COLD	CATHODE		3-865-871-21	MANUAL, INSTRUCTIO	N (FRENCH)
	,	03/TRV110/TRV110E:E,HK,A					V103:CND/TRV110:CND)
<b>△</b> ND901	1-517-751-41	TUBE, FLUORESCENT, COLD			3-865-871-31	MANUAL, INSTRUCTIO	'
* ND001	1 517 055 11		E:AEP,UK,EE,NE,RU)			(	(TRV110:E,HK/TRV110P)
<b>△</b> ND901	1-517-855-11	TUBE, FLUORESCENT,COLD	TRV310E/TRV310P)		2-865-871-//1	MANUAL, INSTRUCTIO	N
<b>△</b> ND901	1-517-856-11	TUBE, FLUORESCENT, COLD	,				(TRV110:E,HK/TRV110P)
			0/TRV210E/TRV315)		,	MANUAL, INSTRUCTIO	, , ,
		,	,		(	TRADITIONAL CHINESE)	(TRV110:E,HK/TRV110P)
S001	1-692-614-11	SWITCH, PUSH (3KEY)			3-865-871-61	MANUAL, INSTRUCTIO	'
0655	4 570 000 11		ME/MP,REC PROOF)		0.005.000		(TRV110:E/TRV110P)
S002	1-572-688-11				3-865-968-11	MANUAL, INSTRUCTIO	
S901 SP901	1-762-436-15	SWITCH, ROTARY (ENCODI SPEAKER (2.8CM)	in)		3-865-068-21	MANUAL, INSTRUCTIO	(TR7000E/TR7100E)
35301	1-304-733-41	' '	/TR7000E/TR7100E)				(TR7000E:AEP/TR7100E)
<b></b> ∆V901	1-452-673-61	CRT ASSY (M01KXX90WB)	, 000L, IIII 100L)		(,	3.7OII/I OIII OUOLOL)(	( 000L.ALI / IIII 100L)
		(EXCEPT:TRV315/TR7000	/TR7000E/TR7100E)				
			,	1			

Be sure to read "Precautions upon replacing CCD imager" on page 4-11,14 when changing the CCD imager.

#### Note:

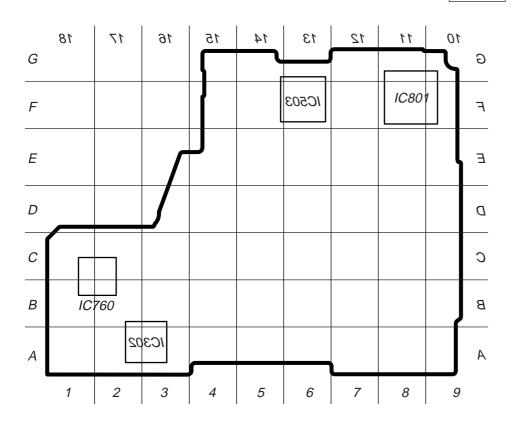
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

D ( N	D . N	
Ref. No.	Part No. 3-865-968-31	<u>Description</u> <u>Remarks</u> MANUAL, INSTRUCTION (GERMAN/ITALIAN)
		(TR7000E:AEP/TR7100E)
	3-865-968-41	MANUAL, INSTRUCTION (DUTCH/FRENCH) (TR7000E:AEP/TR7100E)
	3-865-969-11 3-865-969-21	MANUAL, INSTRUCTION (ENGLISH)(TR7000) MANUAL, INSTRUCTION (FRENCH)
	3-865-970-11	(TR7000:CND) MANUAL, INSTRUCTION(ENGLISH/RUSSIAN) (TRV110E:EE,NE,RU)
	3-865-970-21	MANUAL, INSTRUCTION
	3-865-970-31	(SPANISH/PORTUGUESE)(TRV110E:AEP1) MANUAL, INSTRUCTION (DUTCH/ITALIAN) (TRV110E:AEP2)
	3-865-970-41	MANUAL, INSTRUCTION (ENGLISH/DUTCH)
	3-865-970-51	(TRV110E:AEP,UK) MANUAL, INSTRUCTION (SWEDISH/POLISH)
	3-865-971-11	(TRV110E:EE,NE,RU) MANUAL, INSTRUCTION (ENGLISH/RUSSIAN) (TRV110E:E,HK,AUS,CN,JE)
	3-865-971-21	MANUAL, INSTRUCTION (FRENCH/GERMAN)
	3-865-971-31	(TRV110E:E,HK,JE) MANUAL, INSTRUCTION (ARABIC/PERSIAN) (TRV110E:E)
	3-865-971-41	MANUAL, INSTRUCTION (TRADITIONAL CHINESE)(TRV110E:HK)
	3-865-971-51	MANUAL, INSTRUCTION
	3-865-972-11	(SIMPLIFIED CHINESE)(TRV110E:E,CN,JE) MANUAL, INSTRUCTION (ENGLISH) (TRV203/TRV210/TRV310:US/TRV315)
	3-865-972-21	MANUAL, INSTRUCTION (FRENCH)
	3-865-972-31	(TRV203/TRV210:CND/TRV315:CND) MANUAL, INSTRUCTION (ENGLISH)
	3-865-972-41	(TRV310:E,HK,JE/TRV310P) MANUAL, INSTRUCTION
	(SPA 3-865-972-51	ANISH/PORTUGUESE)(TRV310:E,HK,JE/TRV310P) MANUAL, INSTRUCTION
	3-865-972-61	(TRADITIONAL CHINESE)(TRV310:E/TRV310P) MANUAL, INSTRUCTION (KOREAN)
		(TRV310:E/TRV310P)
	3-865-972-71	MANUAL, INSTRUCTION (KOREAN) (TRV310:JE)
	3-865-973-11	MANUAL, INSTRUCTION (ENGLISH) (TRV210E:AEP,UK/TRV310E:AEP,UK)
	3-865-973-21	MANUAL, INSTRUCTION
	(SPAN 3-865-973-31	ISH/PORTUGUESE)(TRV210E:AEP/TRV310E:AEP) MANUAL, INSTRUCTION (DUTCH/ITALIAN)
	3-865-973-41	(TRV210E:AEP/TRV310E:AEP) MANUAL, INSTRUCTION (FRENCH/DUTCH) (TRV210E:AEP/TRV310E:AEP)
	3-865-974-11	MANUAL, INSTRUCTION (ENGLISH/RUSSIAN)
	3-865-974-21	(TRV210E:CN/TRV310E:E,HK,AUS,CN,JE) MANUAL, INSTRUCTION (FRENCH/GERMAN)
		(TRV210E:CN/TRV310E:E,HK,CN,JE)
		MANUAL, INSTRUCTION ONAL CHINESE)(TRV210E:CN/TRV310E:E,HK,CN)
	3-865-974-51 (SIMP)	MANUAL, INSTRUCTION LIFIED CHINESE)(TRV210E:CN/TRV310E:E,CN,JE)
	3-987-015-01	BELT (S), SHOULDER
	3-988-960-01 8-883-112-29	BAG (8500), CARRYING (TRV110P/TRV310P) V8-6CLHSP
	A-7094-140-A	
		TRV310/TRV310P/TRV315/TR7000)
		NP-F330 BATTERY PACK TRV110E/TRV210E/TRV310E/TR7000E/TR7100E)

## **(PARTS REFERENCE SHEET)**

You can find the parts position of location of mount locations applying to VC-213 board of a set.

VC-213 DCR-TRV103/TRV110/TRV110E/TRV110P/TRV203/TRV210/ TRV210E/TRV310/TRV310E/TRV310P/TRV315 DCR-TR7000/TR7000E/TR7100E SIDE A

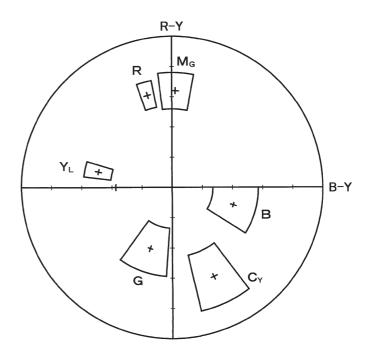


VC-213 DCR-TRV103/TRV110/TRV110E/TRV110P/TRV203/TRV210/ TRV210E/TRV310/TRV310E/TRV310P/TRV310 DCR-TR7000/TR7000E/TR7100E SIDE B



## **(FOR CAMERA COLOR REPRODUCTION ADJUSTMENT)**

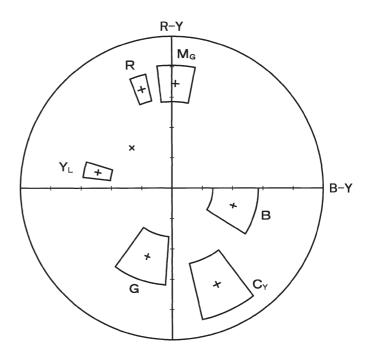
#### For NTSC 720H model



Take a copy of CAMERA COLOR REPRODUCTION FRAME and Parts referencesheets with a clear sheet for use.

DCR-TRV103/TRV110/TRV110P/TRV203/ TRV210/TRV310/TRV310P/TRV315 DCR-TR7000

#### For PAL 960H model



DCR-TRV110E/TRV210E/TRV310E DCR-TR7000E/TR7100E



## DCR-TRV103/TRV110/TRV110E/TRV110P/TRV203/TRV210/ TRV210E/TRV310/TRV310E/TRV310P/TRV315 DCR-TR7000/TR7000E/TR7100E

# DCR-TRV103/TRV110/TRV110E/TRV110P/TRV203/TRV210/ TRV210E/TRV310/TRV310E/TRV310P/TRV315 DCR-TR7000/TR7000E/TR7100E

SONY®

# **SERVICE MANUAL**

1999.06

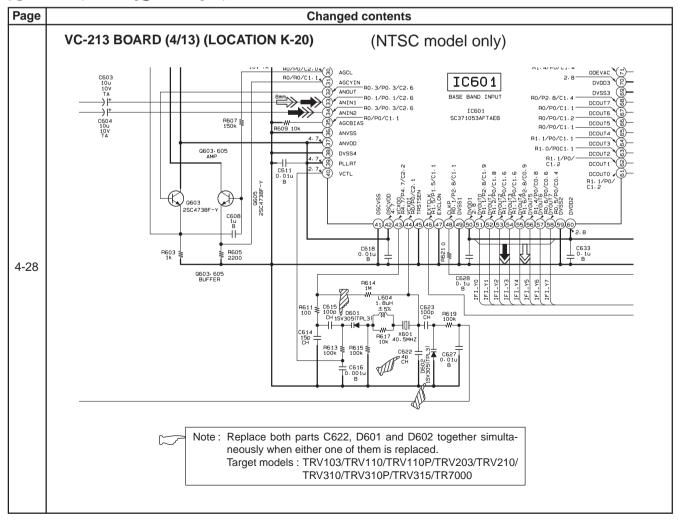
US Model
DCR-TRV103/TRV110/TRV210/TRV310/TRV315/TR7000 Canadian Model
DCR-TRV103/TRV110/TRV203/TRV210/TRV315/TR7000 ORTHVIOLITAV203/18V210/18V319/18V0000 DCR-TRV110/TRV110E/TRV110P/ TRV310/TRV310E/TRV310P Hong Kong Model DCR-TRV110/TRV110E/TRV310/TRV310E AEP Model
DCR-TRV110E/TRV210E/TRV310E/
TR7000E/TR7100E TR7000E/TR7100E
UK Model
DCR-TRV110E/TRV210E/TRV310E/TR7000E
Tourist Model
DCR-TRV110E/TRV310/TRV310E
Australian Model
DCR-TRV110E/TRV310E Brazilian Model Chinese Model
DCR-TRV110E/TRV210E/TRV310F East European Model North European Model Russian Model BCR-TRV110E Taiwan Model DCR-TRV310

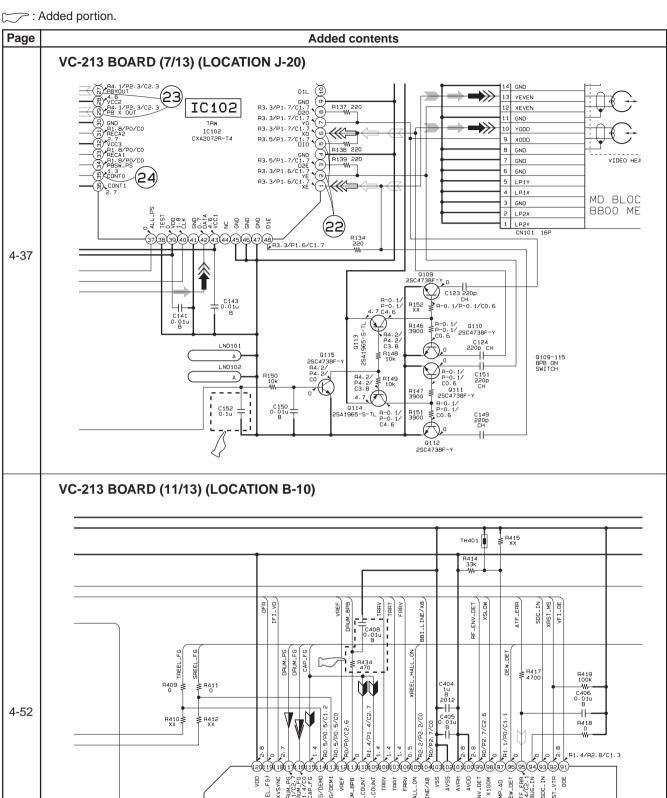
# **SUPPLEMENT-1**

File this supplement with the Service Manual.

- Part number suffix of VC-213 board is changed to 13. (C152, C408 and R434 are added as the suffix is changed.)
- Change of the repair part supply.

: Added portion. : Chenged portion.





2.8 O XPWDA

O XPWDA

XRST\_LINK

₩DA XPWDA

IC401

MECHANISIM CONTROL

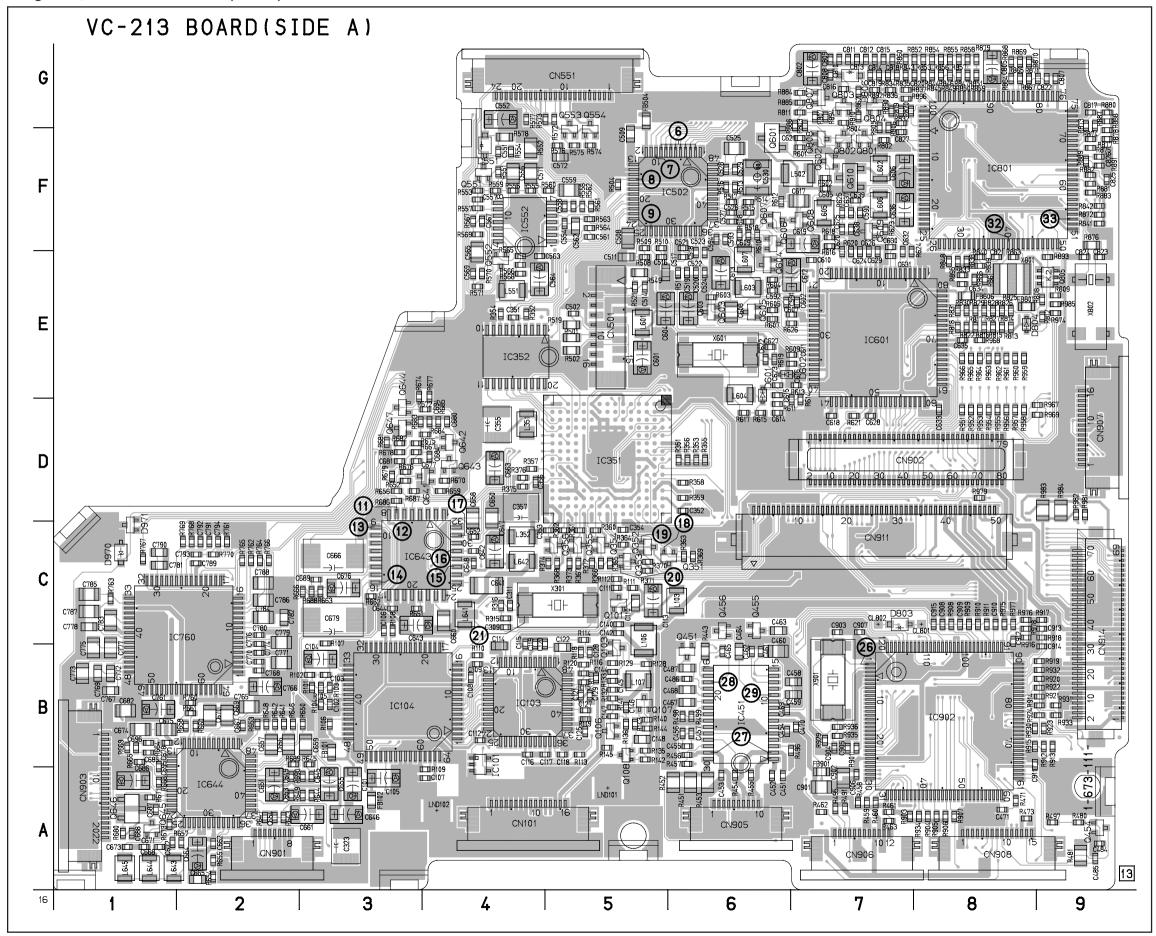
8 2.8

EEP\_RST XCS\_EEP

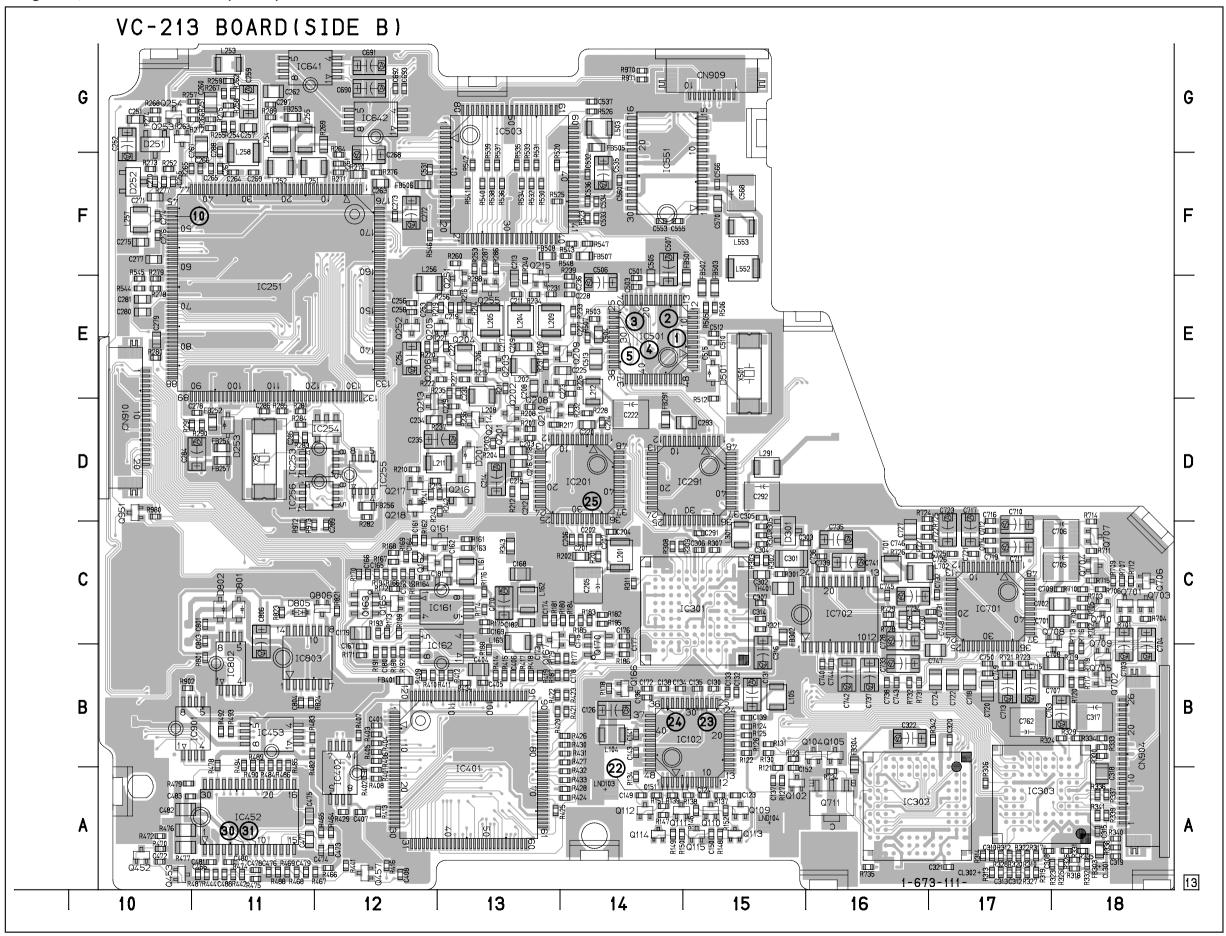
XCS\_HONEY LIP\_SLEEP

HI\_SO(HI→MS)

< Page 4-65, 4-66 > VC-213 BOARD (SIDE A) SUFFIX No. -13



< Page 4-67, 4-68 > VC-213 BOARD (SIDE B) SUFFIX No. -13



#### : Added portion. : Chenged portion.

Page			Added conte	ents	
	VC-213 BOARD ( LOCATION TABL		A		
4-69	C142 B-14 C149 A-14 C150 A-15 C151 A-14 C152 B-15 C161 C-12 C162 C-13 C163 C-12 C164 C-12	C401 B-12 C404 B-13 C405 B-13 C406 B-13 C407 A-12 C408 A-12 C472 A-10 C473 A-12 C474 A-12	R121 B-15 R122 B-15 R123 B-15 R124 B-15 R125 B-15 R126 B-15 R126 B-15 R127 A-15 R130 B-15	R430 B-14 R431 B-14 R432 A-14 R433 A-14 R434 B-13 R441 A-12 R442 A-11 R444 A-11 R464 A-12	

Page			INCORRECT				CORRECT	
	Ref. No.	Part No.	Description	Remarks	Ref. No.	Part No.	Description	Remarks
6-26					C152	1-107-820-11	CERAMIC CHIP 0.1uF	16V
6-27				[	C408	1-164-943-11	CERAMIC CHIP 0.01uF 10%	16V
	C622	1-164-847-11	CERAMIC CHIP 7PF 0.5PF	16V	C622	^	CERAMIC CHIP 7PF 0.5PF 10E/TRV210E/TRV310E/TR7000E/	
6-28				0	C622 (Note)		CERAMIC CHIP 4PF 0.25PF RV103/TRV110/TRV110P/TRV203 TRV310/TRV310P/TRV315	3/TRV210/
	D601	8-719-071-32	DIODE HVC350BTRF		D601		DIODE HVC350BTRF 10E/TRV210E/TRV310E/TR7000E/	/TR7100E)
				C	D601 (Note)	8-719-076-01 (T	DIODE 1SV305(TPL3) RV103/TRV110/TRV110P/TRV203 TRV310/TRV310P/TRV31	
6-31	D602	8-719-071-32	DIODE HVC350BTRF		D602	^	DIODE HVC350BTRF 10E/TRV210E/TRV310E/TR7000E/	<u>(TR7100E)</u>
				C	D602 (Note)		DIODE 1SV305(TPL3) RV103/TRV110/TRV110P/TRV203 TRV310/TRV310P/TRV315	
			Note: Replace both p				simulta-	
6-35					R434	1-218-949-11	RES,CHIP 470 5%	1/16W

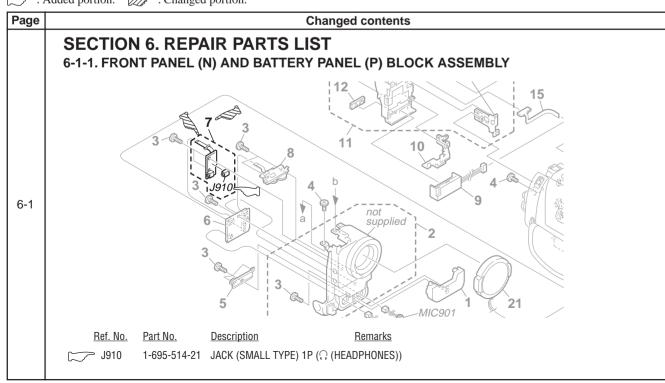
## DCR-TRV103/TRV110/TRV110E/TRV110P/TRV203/TRV210/ TRV210E/TRV310/TRV310E/TRV310P/TRV315 DCR-TR7000/TR7000E/TR7100E

#### : Added portion. Changed portion.

Page			OLD				NEW	
	Ref. No.	Part No.	Description VF-129(N) BOARD, COM ************************************		Ref. No.	Part No.	Description VF-129(N) BOARD, COMPLETE ***********************************	Remarks
6-41			< CONNECTOR >	715) 40	** ONOO4	1 705 070 04	< CONNECTOR >	
0-41	CN901		CONNECTOR, FPC (NON	,	* CN901	P	CONNECTOR, FPC (NON ZIF) 4P	
		Note:	When the VF-129 boa	ther with the board to suffix -12. eplaced, confirm the board suffix number. If the ace CN901 at the same time.				
4-117		B	SOL R928 R927 R915 G G G G G G G G G G G G G G G G G G G	DE A)	VF - 38	(SIC	DE B)	

#### • HP jack is changed from "not supplied" to a repair part for service.

: Added portion. Changed portion.



**—** 5 **—** 

## DCR-TRV103/TRV110/TRV110E/TRV110P/TRV203/TRV210/ TRV210E/TRV310/TRV310E/TRV310P/TRV315 DCR-TR7000/TR7000E/TR7100E

#### [ CORRECTION ]

9-974-147-83

Correct your service manual as shown below.

: Added portion. : Changed portion.

Page			INCORRECT				CORRECT	
	Ref. No.	Part No.	Description	<u>Remarks</u>	Ref. No.	Part No.	<u>Description</u>	<u>Remarks</u>
			K ASSEMBLY (3.0/3.5 RV210/TRV210E/TRV31				5)	
6-7	LCD901	1-803-359-21	MODULE, CRYSTAL INDICATIO (EXCEPT:TRV3		LCD901	1-803-359-21	MODULE, CRYSTAL INDICATION (TRV203/TRV210/TRV210	<u>DE/TRV315)</u>
					LCD901	1-803-360-21	MODULE, CRYSTAL INDICATION (TRV310:US	S/TRV310E)
								~>
			MISCELLANEOUS ************************************				MISCELLANEOUS *************	
6-42	LCD901	1-803-359-21	MODULE, CRYSTAL INDICATION TRV203/TRV210/TRV210E/TRV3		LCD901	1-803-359-21	MODULE, CRYSTAL INDICATION (TRV203/TRV210/TRV210	<u>DE/TRV315)</u>
					LCD901	1-803-360-21	MODULE, CRYSTAL INDICATION (TRV310:US	
								B
			ACCESSORIES ***********				ACCESSORIES **********	
6-43E		3-865-969-01	MANUAL, INSTRUCTION (ENGL	(TR7000)		3-865-969- <u>11</u>	MANUAL, INSTRUCTION (ENGLIS	SH) (TR7000)

Sony Corporation
Personal VIDEO Products Company

<u>6</u>

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# DCR-TRV103/TRV110/TRV110E/TRV110P/TRV203/TRV210/ TRV210E/TRV310/TRV310E/TRV310P/TRV315 DCR-TR7000/TR7000E/TR7100E

SONY.

# **SERVICE MANUAL**

1999. 12

US Model
DCR-TRV103/TRV110/TRV210/TRV310/TRV315/TR7000
Canadian Model
DCR-TRV103/TRV110/TRV203/TRV210/TRV315/TR7000
E Model
DCR-TRV110/TRV110E/TRV110E/TRV310E/TRV310P
Hong Kong Model
DCR-TRV110/TRV110E/TRV310/TRV310E

AEP Mod DCR-TRV110E/TRV210E/TRV3100 TR7000E/TR7100 UK Mod

UK Mode DCR-TRV110E/TRV210E/TRV310E/TR7000E Tourist Mode. DCR-TRV110E/TRV310/TRV310E Australian Mode. DCR-TRV110E/TRV310E

> Chinese Mo DCR-TRV110E/TRV210E/TRV3

East European Model
North European Model
Russian Model
DCR-TRV110E
Taiwan Model
DCR-TRV310

# **SUPPLEMENT-2**

File this supplement-2 with the Service Manual. (99-022)

TYPE S is added to the 3.5 LCD panel....... (page 1 to 5).

 Target model : DCR-TRV310 (US model)
 Applicable serial Nos.

 Models Serial Nos.

DCR-TRV310: US 1269351 - 1272150

: Added portion. Changed portion.

Page	Changed contents
	Table for difference of function
	Note1: EE, NE, RU model is 360×.
4	Note2: There are two types of LCDs (TYPE C and TYPE S) in the DCR-TRV310: US.

: Added portion.

Page			Changed co					
	1-6. LC	SECTION 5. ADJUSTMENTS  1-6. LCD SYSTEM ADJUSTMENTS  (DCR-TRV103/TRV110/TRV110E/TRV110P/)  TRV203/TRV210/TRV210E/TRV310/  TRV310E/TRV310P/TRV315  Note 5: LCD TYPE S model: DCR-TRV103/TRV110/TRV110E/						
	L0  1 <b>Note 6:</b> Th	TRV TRV: CD TYPE C model: DCR here are two types of LCI	110P/TRV203/TRV210/TRV210E/ 310:US/TRV310E/TRV315					
5-38	[LCD typ	e check] 06 board CN5501						
	Resistor value	LCD type	Model					
	1kΩ	2.5 LCD TYPE S 61k	CCD-TRV103/TRV110/TRV110P/ TRV110E (E,HK,AUS,CN,JE)					
	2.2kΩ 2.5 LCD TYPE S 84k		(AEP, UK, EE, NE, RU)					
	4.7kΩ	3 LCD TYPE S	CCD-TRV203/TRV210/ TRV210E/TRV315					
	5.6kΩ	3.5 LCD TYPE S	CCD-TRV310:US/TRV310E					
	6.8kΩ	3.5 LCD TYPE C	CCD-TRV310/TRV310P					
5-39	Note : LCI	TRV203	RV103/TRV110/TRV110E/TRV110F B/TRV210/TRV210E/ <u>TRV310</u> :US/ DE/TRV315					
-40	Note: 2.53	TR' 5 LCD TYPE S model: D	CR-TRV103/TRV110/TRV110E/ V110P CR-TRV203/TRV210/TRV210E/ RV310:US/TRV310E/TRV315					

: Added portion. : Deleted portion.

age	Added portion. : De	Changed contents						
age	7 V COM Lovel Adiv							
	7. V-COM Level Adju	stment (PD-105/106 board)						
	Specified Value	A=6.15 ± 0.05V (2.5 LCD TYPE S 61k NTSC) A=6.48 ± 0.05V (2.5 LCD TYPE S 61k PAL) A=6.03 ± 0.05V (2.5 LCD TYPE S 84k PAL) A=6.28 ± 0.05V (3 LCD TYPE S NTSC) A=6.60 ± 0.05V (3 LCD TYPE S PAL) A=6.60 ± 0.05V (3.5 LCD TYPE S PAL) A=5.10 ± 0.05V						
	Note 2 : 2.5 LCD TYPE S	61k NTSC model: DCR-TRV103/TRV110/						
	2.5 LCD TYPE S	TRV110P 84k PAL model : DCR-TRV110E						
	(AEP,UK,EE,NE,RU)  2.5 LCD TYPE S 61k PAL model: DCR-TRV110E (E,HK,AUS,CN,JE)  3 LCD TYPE S NTSC model: DCR-TRV203/TRV210/TRV315  3 LCD TYPE S PAL model: DCR-TRV210E  3.5 LCD TYPE S PAL model: DCR-TRV310E  3.5 LCD TYPE C NTSC model: DCR-TRV310P							
5-41	3.5 LCD TYPE S NTSC model : DCR-TRV310:US							
	8. Color Adjustment  Specified Value	(PD-105/106 board)  A=0.43 ± 0.05V (2.5 LCD TYPE S 61k NTSC) A=0.45 ± 0.05V (2.5 LCD TYPE S 61k PAL)						
		A=0.36 ± 0.05V (2.5 LCD TYPE S 84k PAL) A=0.49 ± 0.05V (3 LCD TYPE S NTSC) A=0.43 ± 0.05V (3 LCD TYPE S PAL) A=0.40 ± 0.05V (3.5 LCD TYPE S PAL) A=0.22 ± 0.05V (3.5 LCD TYPE C NTSC)						
		1k NTSC model :DCR-TRV103/TRV110/ TRV110P 4k PAL model : DCR-TRV110E						
	2.5 LCD TYPE S 6 3 LCD TYPE S NT 3 LCD TYPE S PA 3.5 LCD TYPE S #	(AEP,UK,EE,NE,RU)  1k PAL model : DCR-TRV110E						
5-42		ljustment (PD-105/106 board)  del: DCR-TRV103/TRV110/TRV110E/						
	に LCD TYPE C mo	<u>TRV310:US</u> /TRV310E/TRV315 del: DCR-TRV310/TRV310P						

: Added portion. Changed portion.

Page			OLD				NEW	
	Ref. No.	Part No.	<u>Description</u>	<u>Remarks</u>	Ref. No.	Part No.	<u>Description</u>	<u>Remarks</u>
	6-1-4			SEMBLY (3.0/3.5 E/TRV310/TRV31				
6-4	161	(TRV2		ASSY :CN/TRV310:US,HK,E,JE/ CN,JE/TRV310P/TRV315)		(TRV2		NSSY CN/TRV310:US,HK,E,JE/ N,JE/TRV310P/TRV315)
	161	X-3949-475-1	CABINET (R) (955) (TRV210E:A	ASSY EP.UK/TRV310E:AEP,UK)	161	X-3949-475- <u>5</u>	CABINET (R) (955) A (TRV210E:Al	ASSY EP.UK/TRV310E:AEP,UK)
	161	X-3949-477-1	CABINET (R) (955)	ASSY (TRV310:TW)	161	X-3949-477-4	CABINET (R) (955) A	SSY (TRV310:TW)
	6-1-7			(3.0/3.5 INCH LC E/TRV310/TRV31			15)	
	315	A-7073-957-A	PD-106 (CAN) BOAI		315	A-7073-957-A	PD-106 (CAN) BOAR	
6-7	315	A-7073-975-A	PD-106 (SHP) BOAI	(TRV310/TRV310P) RD, COMPLETE (TRV310E)	315	A-7073-975-A	PD-106 (SHP) BOAR	E C)(TRV310/TRV310P) D, COMPLETE )(TRV310:US/TRV310E)
					Note:		hecking the TYPE Cent section of page (	
	6-2.	ELECTRI	CAL PARTS	LIST	6-2.	ELECTRI	CAL PARTS	LIST
		A-7073-957-A	PD-106(CAN) BOAF	(TRV310/TRV310P)		A-7073-957-A	PD-106(CAN) BOARI	<u>E C)</u> (TRV310/TRV310P)
6-21		A-7073-975-A	PD-106(SHP) BOAF	(TRV310E)		A-7073-975-A	PD-106(SHP) BOARI	(TRV310:US/TRV310E)
				(Ref.No.:1000 Series)				(Ref.No.:1000 Series)
					Note:		hecking the TYPE Cent section of page s	

-2- -4-

# DCR-TRV103/TRV110/TRV110E/TRV110P/TRV203/TRV210/ TRV210E/TRV310/TRV310E/TRV310P/TRV315 DCR-TR7000/TR7000E/TR7100E

SONY

# **SERVICE MANUAL**

2001.01

DCR-TRV103/TRV110/TRV210/TRV310/TRV315/TR7000
Canadian Model
DCR-TRV103/TRV110/TRV203/TRV210/TRV315/TR7000
E Model
DCR-TRV110/TRV110E/TRV110E/TRV110P/
TRV310/TRV310E/TRV310P
Hong Kong Model
DCR-TRV110E/TRV210E/TRV310TRV310E
AEP Model
DCR-TRV110E/TRV210E/TRV310E/TRV310E/
TR7000E/TR7100E

DCR-TRV110E/TRV210E/TRV310E/TR7000E
Tourist Model
DCR-TRV110E/TRV310/TRV310E
Australian Model
DCR-TRV110E/TRV310E/TRV310E
Brazilian Model
DCR-TRV110E/TRV210E/TRV310E
East European Model
North European Model
Russian Model
DCR-TRV110E
Taiwan Model
DCR-TRV110E
Taiwan Model
DCR-TRV310

# **CORRECTION-2**

Correct your service manual as shown below.

- Change of adjustment data.
- Change of the parts.

#### **SECTION 5. ADJUSTMENTS**

: Changed portion.

Page			IN	CORRECT	CORRECT					
		1-2-3. INITIALIZATION OF E, F PAGE DATA 3. F Page table					1-2-3. INITIALIZATION OF E, F PAGE DATA 3. F Page table			
	Address	Initial value		Remark	Address	Initial value		Remark		
5-16	5A 5B 5C 5D 5E 5F 60	2A 00 19 00 37 52 52	2A 00 19 00 37 52 52	Flange back adj.  Angular velocity sensor sensitivity data check	5A 5B 5C 5D 5E 5F 1	2A 00 19 00 _37 _ 82 80	2A 00 19 00 37 82 80	Flange back adj.  Angular velocity sensor sensitivity data check		
5-30	Adjustme Adjustme Adjusting 1) Select 1 2) Select 1	F 5F, 60  : 01, and set data: 01. : 5F and check that the data is "52". : 60 and check that the data is "52".	Adjustme Adjustme Adjusting 1) Select 1 2) Select 1	ent Page ent Addr method page: 0, page: F,	ess l: address	F  5F, 60  : 01, and set data: 01. : 5F and check that the data is "82". : 60 and check that the data is "80".				

Remarks

Address Function Remarks Function Minute				A
A2 Drum rotation I Minute	Address	Function		Remarks 💆
	A2	Drum rotation	Minute	
A3 counted time Hour (L) 10th place digit and 1st place digit of counted time (decimal digit	A3	counted time	Hour (L)	10th place digit and 1st place digit of counted time (decimal digit)
A4 (BCD code) i Hour (H) 1000th place digit and 100th place digit of counted time (decimal	A4	(BCD code)	Hour (H)	1000th place digit and 100th place digit of counted time (decimal digit

#### **INCORRECT**

#### 8. Switch check (2)

Address	Data									
Audiess	00 to 0C	0D to 24	25 to 3F	40 to 5D	5E to 81	82 to AA	AB to D7			
64 (KEY AD4) (IC801 <b>9</b> )			EXPOSURE (CF-62/63/65 board) (S012)	BACK LIGHT (CF-62/63/65 board) (S017)	(CF-62/63/65 board)	INFINITY	FOCUS AUTO (PS-9500 block)			
65 (KEY AD5) (IC801 <b>9</b> 8)	DATA CODE (CF-62/63/65 board) (S003)		END SEARCH (CF-62/63 board) (S013)		DISPLAY (CF-62/63 board) (S022)		+SLOW SHUTTER (FP-62 flexible)			

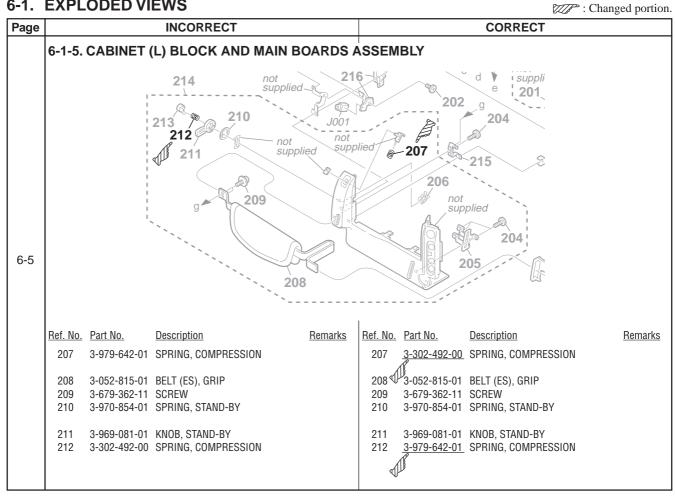
5-78E CORRECT

#### 8. Switch check (2)

۸ ططعمم	Data									
Address	00 to 0C	0D to 24	25 to 3F	40 to 5D	5E to 81	82 to AA	AB to D7			
64			EXPOSURE	BACK LIGHT	FADER	FOCUS	EOCHE AUTO			
(KEY AD4)			(CF-62/63/65 board)	(CF-62/63/65 board)	(CF-62/63/65 board)	INFINITY	FOCUS AUTO			
(IC801 <b>97</b> )			(S012)	(S017)	(S027)	(PS-9500 block)	(PS-9500 block)			
65	DATA CODE		END SEARCH		DISPLAY		+SLOW			
(KEY AD5)	(CF-62/63/65 board)		(CF-62/63 board)		(CF-62/63 board)		SHUTTER			
(IC801 <b>98</b> )	(S003)		(S013)		(S022)		(FP-62 flexible)			

# **SECTION 6. REPAIR PARTS LIST**

#### 6-1. EXPLODED VIEWS



## DCR-TRV103/TRV110/TRV110E/TRV110P/TRV203/TRV210/ TRV210E/TRV310/TRV310E/TRV310P/TRV315 DCR-TR7000/TR7000E/TR7100E

# **Revision History**

Ver.	Date	History	Contents	S.M. Rev.
1.0	1999.02	Official Release	_	_
1.1	1999.06	Supplement-1	Part number suffix of VC-213 board is changed to 13.  (C152, C408 and R434 are added as the suffix is changed.)  Change of the repair part supply.	Yes
		Correction-1	Change of adjustment data.  Correction of Note for simultaneous Replacement of Parts.  S.M. correction: Page 5-22, 5-61, 6-2, 6-3, 6-4, 6-7, 6-9, 6-11, 6-14, 6-42	
1.2	1999.12	Supplement-2/ Correction	TYPE S is added to the 3.5 LCD panel.  Target model: DCR-TRV310 (US model)  HP jack is changed from "not supplied" to a repair part for service.  Correction of repair part supply.  S.M. correction: Page 6-7, 6-42, 6-43	Yes
1.3	2001.01	Correction-2	Change of adjustment data. Change of the parts. S.M. correction: Page 5-16, 5-30, 5-77, 5-78, 6-5	Yes